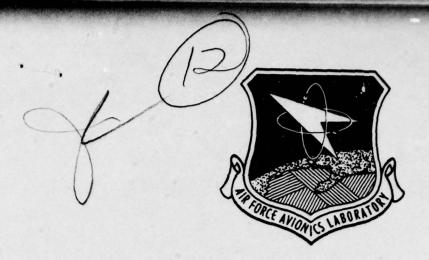


AFAL-TR-76-253



EFFICIENCY COMPARISON OF JOVIAL-73/I AND AN/AYK-15 ASSEMBLY LANGUAGE

DAIS PROJECT OFFICE SYSTEM AVIONICS DIVISION

JANUARY 1977

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TECHNICAL REPORT AFAL-TR-76-253
FINAL REPORT FOR PERIOD AUGUST - SEPTEMBER 1976

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This technical report has been reviewed and is approved for publication.

W. LAND TRAINOR
Technical Manager,
DAIS Software Group

FOR THE COMMANDER

JAMES D. EVERETT, Col, USAF Chief, System Avionics Division

AF Avionics Laboratory

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AFAL-TR-76-253 ITTLE (and Subtitio) Efficiency Comparison of JOVIAL-73/I and AN/AYK-15 Assembly Language AUTHOR(*) **SETS** **W. Lynn Trainor, Mike Burlakoff, and John Garrett Distribution of Laboratory (AFAL/AA) **Wight-Patterson AFB, Oh 45433 **Controlling Office Name and Address Air Force Avionics Laboratory (AFAL/AA) **Wright-Patterson AFB, Oh 45433 **Monitoring Agency Name & Address(il different from Controlling Office) **Monitoring Agency Name & Address(il different from Controlling Office) Distribution statement (of the Abstract entered in Black 20, Il different from Report) **SECURITY CLASS. (of this report) **Distribution Statement (of the Abstract entered in Black 20, Il different from Report) **SUPPLEMENTARY NOTES** **Rev WORDs (Continue on reverse side if necessary and identify by black number) **Digital Avionics Information System** **Note of Address information System** **Note o	REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
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FOREWORD

At the request of the Joint Tactical Information Distribution System (JTIDS), Joint Program Office (JPO), the Air Force Avionics Laboratory undertook this programming language comparison effort. The overall objective was to compare the relative efficiencies of JOVIAL-73/I and Assembly Language coding for the AN/AYK-15 airborne computer. This effort was conducted in-house by the Digital Avionics Information System (DAIS) Project Office of the System Avionics Division. The algorithms were coded by Mr. John Garrett, and the analysis and report writing were performed by Mr. William L. Trainor and Mr. Mike Burlakoff.

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SECTION I

INTRODUCTION

This report was generated to document the results of an in-house study effort conducted by the Digital Avionics Information System (DAIS) Project Office, System Avionics Division, Air Force Avionics Laboratory. This effort was undertaken to support the JPO/MITRE 1976 Summer Study which is attempting to define a data processing strategy for the Joint Tactical Information Distribution System (JTIDS) project. The objective of the DAIS support effort was to obtain and analyze language efficiency data on the usage of the JOVIAL-73/I language as compared to assembly language programming. In particular, two algorithms (see appendices "A" and "B") were chosen that were considered to be typical of the computational and data extraction activities central to the JTIDS data processing environment. In turn these two algorithms were coded in both JOVIAL-73/I and assembler language for the AN/AYK-15 airborne computer, and information was obtained on the programmer's coding time, the computer storage, and the execution time requirements.

As a part of the overall JPO/MITRE Study, the data of this report will be used as an input to defining the JTIDS data processing strategy. Similar coding comparison efforts are concurrently underway implementing the same algorithms in COBOL, FORTRAN, and the JTIDS Standard Instruction Set.

SECTION II

COMPARISON PROCEDURES

PROCEDURES

The two JTIDS algorithms were each coded in both JOVIAL-73/I and assembler language, and in turn, the four resultant programs were compiled for the AN/AYK-15 airborne computer. For this effort, the following salient features are notable:

- 1. The coding was performed by an experienced programmer, following the normal DAIS program production processes. Only one programmer was involved, and he performed both the JOVIAL-73/I and assembly language coding. This individual was slightly more proficient with the JOVIAL-73/I language than the AN/AYK-15 Assembly Language, however this difference was considered very minimal.
- 2. The programs were developed to the point that error-free compilations were available, and no attempts were made to debug the actual logic of the routines. Note that the "execution time" data obtained was by a manual process of adding instruction times and not by actual program executions.
- 3. A log was kept, to the nearest half-hour, of programmer time spent on each algorithm. This time includes only that required to code the particular algorithms and correct them to the point of obtaining error-free compilations. It does not include the time required for data analysis and report writing.

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- 4. The storage and run-time requirements for the sine/cosine procedures were not included in the data. However, the calling-conventions overhead is included as part of the data.
- 5. The algorithm development efforts were performed in an interactive, time-shared environment using the DEC-10 computer system. The programmer was responsible for coding the algorithm, entering the source lines via a time-share terminal using a text editor, and compiling these programs via the same time-share facilities.

In order to make the resultant data as directly comparable as possible, several coding "ground rules" were followed for both the assembly language efforts and JOVIAL-73/I efforts. These were:

- 1. A standard procedure-linkage convention was selected and was used for both the JOVIAL-73/I and assembly language implementations.
- 2. The flowcharts and algorithm information supplied by the JTIDS office was followed exactly for both the JOVIAL-73/I and assembly language implementations. One variation was taken with the "ACCEPT/HASH/STORE" algorithm which resulted in a restructuring of the logic (see Appendix "C"), but this program (MBLT1) was separately documented.
- 3. No explicit attempts were made to optimize the coding other than the use of "normal" coding practices.

ALGORITHMS: Two algorithms were implemented as these were supplied by the JTIDS Project Office. Each is briefly discussed below. A more complete description is given in Appendices "A" and "B", and those descriptions are in essence the level of information given to the programmer.

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- 1. Algorithm #1, Coordinate Conversion: This algorithm is a very straight-forward, mathematically oriented algorithm using mainly algebraic and trigonometric relationships. Little or no "logic" is required for this code. The algorithm is designed to convert from the latitude and longitude reference frame of JTIDS messages to the flat coordinate reference frame used by SAGE, E-3A, or 485L. Appendix "A" contains the detailed description of this algorithm along with the resultant JOVIAL-73/I code (procedure name EQUAMB).
- 2. Algorithm #2, ACCEPT/HASH/STORE: Contrary to the coordinate conversion problem above, the second algorithm is almost entirely "logic" and little or no mathematical computation. The algorithm examines a received JTIDS message for the LIBRARY or INPUT MESSAGE MANAGEMENT function, and codes bits to indicate whether the message uses simulated or live data and whether it contained friendly or hostile ground, air or sea data, etc. This algorithm was implemented in two ways:
- a. The flow charts were first implemented with logic exactly as received from the JTIDS office. These results are contained in Appendix "B". The procedure ACHAST is the assembly language version, and the procedure MBLT is the JOVIAL-73/I version.
- b. The flow chart was next modified to implement a more "structured" algorithm per the guidelines of structured programming. The resulting flow chart and listing (JOVIAL-73/I only) is contained in Appendix "C". This procedure is entitled MBLT1.

SECTION III

RESULTS AND CONCLUSIONS

Results: Table 1 is a compilation of the results obtained. The six rows of this table indicate the following:

- a. Rows one and two are the assembly language and JOVIAL-73/I versions, respectively, of Algorithm #1, Coordinate Conversion. The "execution time" data is a result of a manual addition of AN/AYK-15 instruction times for each object code instruction produced by the language translators.
- b. Rows three and four are the assembly language and JOVIAL-73/I versions, respectively, of Algorithm #2, ACCEPT/HASH/STORE. Representative execution time data could not be obtained for this algorithm due to the large number of possible control paths present in the algorithm.
- c. Row five is a JOVIAL-73/I implementation of a "structured programming" version of Algorithm #2, ACCEPT/HASH/STORE.
- d. Row six is the relevant data (programmer time) required for construction of the needed COMPOOL. This COMPOOL is used with both the assembly language and JOVIAL-73/I implementations, and the COMPOOL time should be added to the times above to obtain total representative time estimates when "starting from scratch."

Conclusions: The following major conclusions and observations apply.

1. An approximate 10% inefficiency is incurred with the JOVIAL-73/I implementations. These results compare favorably with other results published for other comparable HOL's that have indicated a 10% to 20% range. This inefficiency appears to hold both for memory usage and execution time.

TABLE 1 SUMMARY RESULTS

	PROGRAMMER TIME	KEY PUNCH	2,5	1.0	4.	2.5	3.0	.25
	PROGRAM	CODING	6.0	2.5	33.	10.	7.5	5,
	EXECUTION TIME	% EXPANSION OVER ASSEMBLY LANGUAGE		9.8%	,	1	1	ŧ
	EXECUTI	MICRO-SEC	316.	347.4			1	1
DITTOCHU TURBURA	MEMORY (16-BIT WORDS	% EXPANSION OVER ASSEMBLY LANGUAGE	4	10.4%	1	11.9%	25.4%	,
	MEMORY (NUMBER OF WORDS	279	308	429	480	538	0
		LANGUAGE/ METHOD	Westinghouse Assembler	1/8/1	Westinghouse Assembler (Original Flowchart)	J73/I (Original Flowchart)	J73/I (Structured Logic and Structured Flowchart)	1/8/1
		FILE	EQUAMB	EQUA	ACHAST	MBLT	MBLT1	JTIDS
		ALGORITHM	ALGORITHM #1, COORDINATE	CONVERSION"	ALGORITHM #2,	HASH/ STORE"		JJ3/1 COMPOOL (Used for Algorithms)

- 2. The programmer's productivity is markedly better in JOVIAL-73/I; better than two one.
- 3. The JOVIAL-73/I implementations are much easier to read and interpret than the assembly language versions. The reliability, maintainability, and "modifiability" should likewise be much better for the JOVIAL-73/I versions.
- 4. With more programmer time allotted, both the JOVIAL-73/I and assembly language versions could be improved, efficiency wise.
- 5. The major inefficiency with the JOVIAL-73/I versions appears to be in sub-optimal usage of the available registers. With an improved optimizer algorithm in the compiler, this 10% figure could be significantly reduced. Study efforts are currently underway to improve this optimizer.
- 6. A very general procedure linkage convention was used for both the assembly language and JOVIAL-73/I versions of each algorithm. A more efficient convention is presently being defined for use in the DAIS Project, and this convention should significantly reduce the size and execution time of both assembly language and JOVIAL-73/I programs.
- 7. The "structured" version of Algorithm #2, MBLT1, is much more readable and understandable than the original version, MBLT. However, the cost was an approximate 14% further inefficiency for this particular implementation. It is felt that with sufficient information on the ACCEPT/ HASH/STORE algorithm, a complete redesign could be accomplished with structured programming principles that would be as efficient as the "unstructured" JOVIAL case (MBLT). In addition to HOL alternatives for JTIDS, it is felt that some consideration should be given to "structured control" alternatives

(e.g., the MBLT1 example) since these produce much superior algorithms from a "maintainability" standpoint.

APPENDIX A

ALGORITHM #1, COORDINATE CONVERSION

ALGORITHM #1 (COORDINATE CONVERSION) DESCRIPTION:

The equations convert from the latitude and longitude reference frame messages to the flat coordinate plane used for SAGE, E-3A or 485L.

All symbols are defined below:

Definitions

X,Y = track position relative to sector center, nautical miles

 $Lp, \lambda p$ = latitude and longitude of sector center

 L,λ = reported latitude and longitude of track position

 ΛL , $\Lambda \lambda$ = differential latitude and longitude minutes

Ep = earth radius at sector center, nautical miles

 ϕ = conformal latitude

 θ = reported heading relative to true north, 0-359 degrees

S = reported speed, 0-2047 data miles per hour

 \dot{X}, \dot{Y} = components of track velocity, knots

Conversion equations

Find X,Y as follows:

 $\dot{X} = .987475 \text{ S sin } \theta$

 $\dot{Y} = .987475 \text{ S cos } \theta$

Note: All position data is positive east and north, negative west and south except differential longitude which is positive west and negative east.

Find, X,Y as follows:

$$X = \frac{2E_{p} \sin \Delta \lambda_{p} \cos \phi}{1 + \sin \phi \sin \phi_{p} + \cos \phi \cos \phi_{p} \cos \Delta \lambda_{p}}$$

$$Y = \frac{2E_{p}(\sin \phi \cos \phi_{p} - \cos \phi \sin \phi_{p} \cos \Delta \lambda_{p})}{1 + \sin \phi \sin \phi_{p} + \cos \phi \cos \phi_{p} \cos \Delta \lambda_{p}}$$

Find sin ϕ , cos ϕ and sin ϕ_p , cos ϕ_p as follows (substituting L_p for L when finding functions of $\phi_p)$:

$$\sin \phi = \sin L (0.99327733 + 0.00666251 \sin^2 L + 0.00005959 \sin^4 L + 0.00000059 \sin^6 L)$$

or
$$\sin \phi = \tan^{-1}(0.99327733 \tan L)$$

$$\cos \phi = (1 - \sin^2 \phi)^{\frac{1}{2}}$$

Find E_p as follows:

$$E_{p} = \frac{3444.054 \cos L_{p}}{\cos \phi_{p} (1 - 0.00672267 \sin L_{p})^{\frac{1}{2}}}$$

ASSEMBLY LANGUAGE IMPLEMENTATION

The state of the s

The following pages are the resultant assembler output for Algorithm #1, Coordinate Conversion. The procedure name is EQUAMB.

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MANUAL M	2022				TORAGE 16 TORAGE 2 TORAGE 2 TORAGE 2 TORAGE 2 OUSTANT OUSTANT	#7E65_#9940 #7E23_#85#9 #643_# #6E9C #44#4_#9E9G
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		002C			OUSTANT	ANS
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0046 83F0 603A H 7222 FFFF X 1044 8400 001A R 1045 C704 001A R 1045 C704 8523 A	44				X = 98747	S * SPEED *SIN(HEADING)
0.446 83F0 6-13A H		1			ET STN OF	HEADTWG
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		8523	A	6		, R.b.
SOUTH FFEE		65.00	A	Z		

SIDRE AX DESCRIPTION Y VELOCITY COMPONENT	YY = .987475 * SPEED *COS(HEADING)	DST - 04 TMP	LIN K2.5FD		SSEMB	MANUSCRIPT	STORE IN MA	AA BEST	118	SIN'TRACK=ATAN(,99327733 * TAH(LAT'TRACK))	TAN	LIM 15.PLIST	JS H2, TAN (LAT*TRAC) +CSIN	0L R0,CSI1	FM RUSALS	UST ROTTED	TAKE ATAN OF VALUE		DL HWANS	STONE IN SIN TRAC	SIH CENTER=ATAM (. 99327733 * TAN (LAT "CÉNTER))	. MULTIPLY TAN(LAT'CENT) BY CSIN	LIM RIS-PLIST2	JS R2, TAN	10 Hey CS 14	F.M. P.O. FUS		ATA	US RZ, ATAN	DE FORMATION OF THE STATE OF TH	TAKU ZIN SE 190	. FIND COS-THAC		-			DL R4, CONE	OF AND TANK OF	1	JS R2, SORT	DL ROLANS
œ		× :	× ×	æ	₂ ~			a				×	×	a	œ	œ	*	*	œ	0			2	×	× 1	× 0	x a		×	×	α			a	~	~	~	α a	×	×	œ.
4004		MW28	1999	4.128	PAGE	HEX CODE A		9000				303A	9.6.6	41.30	49.2C	8208	26.60	FFFF	902C	4416			0.03E	11363	90130	37.00	903E		(1900	27:00	4100			91116	9110	8240	9699	8775	10 3E.	FFFF	BAZC
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190	192	104	11.6	101	1 PROC	LINE	252	91	111	113	115	116	1117	2	12"	121	173	124	125	126	124	130	131	132	133	134	136	137	138	2 2 2	E	142	143	145	146	147	148	24.	151	152	153

55	9660	9400	7100	r	TALL COLOR LANG	
56					FIND COS CENT	
157					. COS CENTER - STATE - COT	
59	8600	8420	4100	α		
160	A600	C724	4100	×		
161	2600	9454	K200	α	_	
162	3600	844.	3.034	2		
163 PHOGHAM:	COORTR	18/4:	PAGE	× *	DAIS HEC ASSEMBLER; VERSION 001	
LINE LOC	-		HEX CODE	4	14	
164	NOAZ	9440	8008	α	DST H4,TPP	
105	00A4	H3FI	AM3E	æ	LIM RIS, PLIST2	
166	SANA	1220	5600	× a	JS H2, SCHT	
101	0 4 4 4	1710	77.00			
159	SOAA	9420	2010	œ	OST RZ, COS CENT	
17.1					FIND EARTH RADIUS = (3444,054 * COS(LAT*CENTER))/(COS*CENTER*SURT(1	R))/(COS*CENTER*SQRT(1006722
172					CESTION STORMS	
73	DVOV	H3F 1	9,40	2		
174	2245	844	99.49 99.20	< α		
76	V.3H.2	0100	N. 2C	α	FM RU, ANS	
77	WOB4	0740	900	œ		
78	0000	6400	902H	x	_	
13	SHOP	8450	9034	×	DL RECONE	
360	A SHOW	H72)	9000	x a		
63	1000	1335	ANA	×		
183	2000	8420	342C	œ	UL RZ, ANS	
94	4002	67.20	2000	x	FM R2, COS CENT	
9.8	6364	9450	1102B	x	100 X2112F	
200	2000	7323	0500	. >		
T T T	S S S S S	842	W. 2C	α	DL HZ,ANS	
7	2264	C72v	BN 32	α		
051	NACE	0720	3028	æ	FU RZ, TWP	
91			4		SOLUME CARITY HADIOS	
261	0.000	3475	SAGE	r	OBTAIN COMMON DIVISOR	
15			-	-	6TVISOR = 1 + STR*CENTER + SIN*TRACK + COS*CENTER+COS*TRACK*COS(LONG*CEN	OS CENTER + COS TRACK + COS (LONG CEN
561						
196	5363	8380	33.42	x	NI.J	
197	4000	7220	6300	×	JS 42,C08	
198					000	
661	9000	8400	M0.2C	α	UL RUANIS	
202	PUP.	0012	2115	αι	TAX COOL OF THE	
201	NOON.	0100	0100	2	TO COLOR	and the state of t
202	2000	2016	9770	x		
243		-		-	-	
204	SADE	8400	+100	x :		
24.5	0.400	0010	01.00	x	J.W.	
200	6300	47.4	000	d	•	
				*		

215 211 212 213	417	216	217	PHI	34.17	218	219	21.1	221	223	177	225	227	228	230	232	233	235	236	237	239	112	243	244	246	147	240		6	SYMBOLS	ANS	ATAN
4.0E.B	Adva	VVEA	12.1	PHOGRAM; COORIN	LOCATION	3300	3309		0.052		GANN	2258		OFFC		9986	0100	9192	4104	222	8010	DATA	2010	w113	9112	6114	9110	NO START ADDRESS ENCOUNTERED	ERROR(S) TH	1.5		
9400	24.42	Class	39.00	X IX		0110	0006		1225	100	8400	0707		9400		8350	1220	84.00	0915	. 0.10 . 0.40 . 0.00	24	07.00	0017	13078	9400	116.48	1012	8E55 E	HIS HUV.	* 3	3020	Sing
9.71C	41.12	1	H200	PAGE	HEX CODE	0.312	302A	1	5445	1	A. 24	5520	1	0000		8342	1	ASSA	1	342C	9280	1	2100	A112A	9002	1	3350	COUNTE		** ASSIGNMENT **		
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				DAIS HE	MANUSCRIPT																			•		TUO				LINE	65	32
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ROBDITION (2.*EARTH*RADIUS*SIN(LONG*CENTER)*COS*TRACK)/DIVISOR	2. EERTH KA	RO, EARTH'RA		DAIS HHC ASSENBLEH; VERSION OOI		RO, COSTIRAC	Rd, IMP1	SIN(LONG'CEN)	K15,FL1514	TMP1*S14A/DIVISOR	KW LIP	Re ANS	X POSITION	F. F. X.X.	I POSTITUR (2.*EARTH*RADIUS*(SIN*IRACK*COS*CENTER - COS*TRACK*SIN*CENTER*COS(L	K15, PL1ST4	US H2/COS	Po. Tap I	HO, SIN CENT	RG. PAIS RS. TXP.	TMP+SIN'THAC+COS*CENT DI. DA.TVD	RO.SIN TRAC	CT TAP1	RA, IMPI	YY POSITION RO,YY	R9,SAVE	0, K2			MUL DEF ATTRIBUTE	R	£X

CF KAD2	95.40	36	11	×	
CONE	5634	52	69	α	
COOKTR	0244	89	98	RE	
503	lele	152	31	ß×	
COSTCENT	6160	16	55	a.	
COSTRAC	2100	18	26	æ	
CSIN	4639	48	19	α	
CTMO	9636	54	NL JA	α	
CXX	SAZE	46	99	α	
DIVISOR	Sine	28	61	α	
EARTH RA	HOOSE	14	54	œ	
03	2000	2	39	d	
GE	3336	9	43	4	
GT	1000	4	41	A	
HEADING	9018	24	65	a.	
LATTCENT	NessA	13	25	α.	
LATTHAC	2000	172	53	α	
37	5003	3	40	A	
LONG CEN	8000	80	51	α	
13	1689	-	38	4	
NE	9995	2	4.2	4	
900	6114	276	247	α,	
Pf.1512	1603	62	16	α	
PLISTS	0040	64	78	α	
1 SYMHOLS	** ASST	** ASSIGNMENT **	LINE	MUL DEF ATTRIBUTE	
PUIST4	2490	99	8.8	R	
PLIST	AESA	85	7.1	C.	
PLISTI	DEMO	69	14	α.	
40	0000	8	-	A	

æ	V	A	A	A	A	A	A	A	A	A	. A	A	A	8	EX	æ	oc.	æ	EX	EX	2	ATTRIBUTE	α	a	x	x	α
17	18	1.9	20	21	22	6	10	11	12	13	14	15	16	62	30	57	58	99	34	33	63	LINE MUL DEF	64	47	49	48	86
5	11	12	13	14	15	2	l s	4	5	٥	1	æ	6	3.0	245	20	22	26	191	117	40	** ASSIGNMENT **	42	9	4	2	9
Variety	HORA	Dead	GACD	NOVE	Sana	2000	8000	2004	5000	9000	7600	8040	6000	WNIE	Sadd	9914	6016	861A	ANDE	5100	8700	** ASS	662A	9656	2004	2000	9999
R16	K11	R12	RIS	814	R15	P 2	R3	R4	RS	Rb	R7	R8	500	SAVE	SIN	SIMPCENT	SINTRAC	SPEED	SORT	TAN	INP	SYMBOLS	TMP1	XX	XX	YY	XX

THE PERSON NAMED IN

JOVIAL-73/I IMPLEMENTATION

The following pages are the resultant compiler output for the JOVIAL-73/I compilation of Algorithm #1, Coordinate Conversion. The procedure name is EQUA.

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JTIDS Seq. 521 Date 14-Sep-76 IN: 03:39 Monitor AFAL 602,15 SYSTEM #STAHT# LPTSPL Version h(347) Punning on LPTW11

START User NUMLARNOFF (3242,1376) Job JTIDS Seq. 521 Date 14-Sep-76 10;03:39 Monitor
Request created: 14-Sec-76 10:804:11

Request created: 14-Sec-76 10:804:11

RUME DRAUDIEGUA_LST[32-2,1376] Created: 14-Sep-76 09:44:00 Printed: 14-Sep-76 10:21:09

OUEUE SALtches: /PRINT:RARNOW /FILE:ASCII /COPIES:1 /SPACING:1 /LMIT:324 /FORMS:NORMAL
File #11 be deleted after printing

AC/ACH/ST	SOUR, FOUR-FOUR, JISTHEC/MAC/ACH/STAI/MOIN/MOPT	2010-000-000-000-000-00-00-00-00-00-00-00	AI/NOIN/NOPT
	TS/HEC/M		AC/ACH/ST
UA=F 00A.J			EGHA, EG

		PROC COOMDINATE INANSFORMATION:
THEN TO THE TOTAL SECTION" THEN TY F; THEN TY F; THEN TY F; THEN LONG'CENTER F; THEN LONG'CENTER F; THEN COS'PHI'THACK F; THEN COS'PHI'THACK F; THEN STAPHI'THACK F; TH	3.	BEGIN "COORDINATE"TRANSFORMATION"
ITEM XX F; ITEM XX F; ITEM XX F; ITEM YY F; ITEM YY F; ITEM YY F; ITEM LAI'TRACK F; ITEM LAI'TRACK F; ITEM CON'PHITCHIER F; ITEM CON'PHITRACK F SIN'PHITRACK F COS'PHITRACK F COS'PHITRACK F SIN'PHITRACK F COS'PHITRACK	3°.	"DECLARATION SECTION"
ITEM XX F; ITEM XX F; ITEM XX F; ITEM YY ITEM LATCRETER F; ITEM LATCRETER F; ITEM LATCRETER F; ITEM COSTPHITCENTER F; ITEM COSTPHITCENTER F; ITEM SINPHITCENTER F; ITEM SINPHITTRACK F; ITEM SINPHITTRACK F; ITEM SINPHITTRACK F; ITEM SINPHITTRACK F; ITEM SPEED F; ITEM SINPHITTRACK F; ITEM SINPHITTRACK F; ITEM SOVEED F; ITEM SOVEED F; ITEM COSTPHIT (99327)33 * TAR(LATTRAC CONTINER) ** "FIND VELOCITY COMPONENTS" "FIND SIN AND COS OF THE TWO COOKED SIN PHITTRACK ** "FIND SIN AND LOSS OF THE TWO CONTINER) ** "FIND COSTPHIT (COSTPHIT CENTER ** SORT (4. ** "FIND TRACK POSITION" "FIND TRACK POSITION" "FIND TRACK POSITION" "Y THACK POSITION"	3.	"DATA DECLAHATION"
ITEM XY F; ITEM LATTRACK ITEM LATTRACK ITEM CANTHER F; ITEM COS PHITTRACK F; ITEM COS PHITTRACK F; ITEM SIN'PHITTRACK F; IN'THACK POSITION F; IN'THACK F; IN'	3.	
ITEM XY F; ITEM LONG"CENTER F; ITEM LATTRACK F; ITEM COS"PHITCENTER F; ITEM COS"PHITCENTER F; ITEM COS"PHITCENTER F; ITEM COS"PHITTRACK F; ITEM SIM"PHITTRACK F; ITEM SIM"PHITT	•	YY
ITEM TYTER F; ITEM LONG'CENTER F; ITEM EARTH'RADIUS F; ITEM COS'PHITPACK F; ITEM COS'PHITPACK F; ITEM COS'PHITPACK F; ITEM SIN'PHITPACK F; ITEM SIN'PHITPACK F; ITEM SIN'PHITPACK F; ITEM SYN'E SYRTH'RACK F; ITEM STANDING STANDING STANDING SIN'PHITRACKS STANDING SIN'PHITRACKS STANDING STANDI	2.	××
ITEM LATTRACK ITEM COS'PHITTPACK ITEM COS'PHITTPACK ITEM COS'PHITTPACK ITEM COS'PHITTPACK ITEM SPEED ITEM HADDING F; ITEM HADDING F; ITEM HADDING F; ITEM SPEED XX*= 941475 * SPEED * SIN'HEADING); XX*= 941475 * SPEED * SIN'HEADING); XX*= 941475 * SPEED * COS(HEADING); XX*= 941475 * SPEED * COS(HATTRACK)**2. CDS'PHITTRACK=SAMT(1, * GIN'PHITTRACK)**2. CDS'PHITTRACK=SAMT(1, * GIN'PHITTRACK)**2. CDS'PHITTRACK=SAMT(1, * GIN'PHITTRACK)**2. CDS'PHITTRACK=SAMT(1, * GIN'PHITTRACK)**3. "FIND EARTH PADIUS * COS'PHITTRACK * SIN'LONG'CENTER)) / DIVISOR; "X TRACK POSITION" XX = (2, * EARTH'HADIUS * COS'PHITTRACK * SIN'LONG'CENTER)) / DIVISOR; COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'CONG'CENTER)) / DIVISOR;	7.	CHENGO CONCI
ITES EARTHRACK F; ITES COS'PHI'CENTER F; ITES SIN'PHI'CENTER F; ITES SIN'PHI'CENTER F; ITES SPEED * SIN'HEADING); XX*= "PIND VELOCITY COMPOWENTS" XX*= "941415 * SPEED * SIN'HEADING); XX*= "941415 * SPEED * SIN'HEADING); XX*= "941415 * SPEED * SIN'HEADING); XX*= "941415 * SPEED * SIN'HEATTHAC SIN'PHI'LHACKEATHA(*99327733 * TAH(LATTHAC SIN'PHI'LHACKEATHA(*99327733 * TAH(LATTHAC SIN'PHI'CENTERSIONI(* - (SIN'PHI'CENTER)** COS'PHI'CENTERSIONI(* - (SIN'PHI'TRACK * COS'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'CLOMG'CENTER) / DIVISOR; X TRACK POSITION" X TRACK POSITION" X * * COS'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * COS'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SOS'CLONG'CENTER)) / DIVISOR; ** COS'PHITRACK * SIN'PHI'TRACK * COS'PHI'TRACK * SOS'CLONG'CENTER)) / DIVISOR;	8	LATOFITER
ITEM COS PHI CEMPER F; ITEM SIM'PHITTRACK F; ITEM STAPHITTRACK F; ITEM STAPHITTRACK F; ITEM SPEED * SIN(HEADING); XX*= ,947475 * SPEED * SIN(HEADING); XY*= ,947475 * SPEED * SIN(HEADING); XY*= ,947475 * SPEED * THE TWO COOKDI SIN'PHITTRACK=ATAN(*,99327733 * TAN(LAT'FRAC SIN'PHITTRACK=SHT(1, * (SIN'PHITTRACK)**2. COS'PHITCENTER=ATAN(*,99327733 * TAN(LAT'FRAC SIN'PHITTRACK=SHT(1, * (SIN'PHITTRACK)**2. COS'PHITTRACK=SHT(1, * (SIN'PHITTRACK)**2. COS'PHITTRACK POSITION" **X TRACK POSITION TRACK		LATTRACK
ITEM COS'PHITCENTER F; ITEM SIM'PHITCENTER F; ITEM SIM'PHITCENTER F; ITEM SPEED F; ITEM SPEED F; ITEM SPEED COS'PHAING); XX*= '947475 * SPEED * SIN(HEADING); XX*= '947475 * SPEED * SIN(HEADING); XX*= '947475 * SPEED * THE TWO COOKDI SIN'PHITGENTER=ATAN(.99327733 * TAN(LAT'FRAC SIN'PHITTRACK=ATAN(.99327733 * TAN(LAT'FRAC SIN'PHITTRACK=ATAN(.99327733 * TAN(LAT'FRAC SIN'PHITTRACK=SAHT(I (SIN'PHITTRACK)**2. COS'PHITCENTER=SART(I (SIN'PHITTRACK)**2. COS'PHITCENTER * SORT(I (SIN'PHITTRACK)**2. "FIND TRACK POSITION" "FIND TRACK POSITION" "Y TRACK POSITION" * SIN(LONGTCENTER) / DIVISOR; * SIN(LONGTCENTER) / DIVISOR; "Y TRACK POSITION" "	10.	EARTH RADIUS
ITEN SIN'PHITTPACK F; ITEN SH'PHITTPACK F; ITEN SPEED * SIN(HEADING); ITEN SPEED * SIN(HEADING); ITEN SPEED * STACHEADING); ITEN SPEED * STACHEATING ITEN STACHEADING); ITEN STACHEADING * COSCHEADING); ITEN STACHEADING * COSCHATER)* ITEN STACHEADING * SOSTHITTRACK * INTEND TRACK POSITION" INTEND TRACK POSITION TRACK SIN'PHITTRACK * INTEND	11.	COS PHI CENTER
ITEM SIMPPHICENTER F; ITEM BADING F; ITEM BADING F; ITEM BADING F; ITEM BINISOR F; ITEM BINISOR F; "FIND VELOCITY COMPOWENTS" XX*= ,941475 * SPEED .* SIN(HEADING); XY*= ,947475 * SPEED .* SIN(HEADING); SIN*PHITTRACK=ATAN(,99327733 * TAN(LATTCENTER)* COS*PHITCENTER=STAT(1, - (SIN*PHITTRACK)*2); COS*PHITCENTER=STAT(1, - (SIN*PHITTRACK)*2); COS*PHITCENTER=STAT(1, - (SIN*PHITTRACK)*2); "FIND TRACK POSITION" X TRACK POSITION" X TRACK POSITION" X SIN(LONG*CENTER)) / DIVISOR; * SIN(LONG*CENTER)) / DIVISOR; * COS*PHITTRACK * SIN*PHITTRACK * * COS*CHATTRACK * * COS	12.	COS PHI TRACK
ITEN BIN'PHITHACK F; ITEN DIVISOR F; ITEN DIVISOR F; XX*= ,947475 * SPEED * SIN(HEADING); XY*= ,947475 * SPEED * SIN(HEADING); XY*= ,947475 * SPEED * COS(HEADING); XY*= ,947475 * SPEED * THE TWO COOKDI SIN'PHITHACK=ATAN(*,99327733 * TAN(LAT'FHAC SIN'PHITHACK=SHT(I, * (SIN'PHITHACK)**2. COS'PHITCENTER=ATAN(*,99327733 * TAN(LAT'FHAC SIN'PHITTRACK * SANT(I, * (SIN'PHITTRACK)**2. COS'PHITHACK=SHT(I, * (SIN'PHITTRACK)**2. "FIND TRACK POSITION" X TRACK POSITION" X TRACK POSITION" X SIN(LONG'CENTER) / DIVISOR; * SIN(LONG'CENTER)) / DIVISOR; * COS'PHITTRACK * SIN'PHITTRACK * * SIN(LONG'CENTER)) / DIVISOR; * COS'PHITTRACK * SIN'PHITTRACK * * COS'PHITTRACK * * COS'PH	13.	SIN PHI CENTER
ITEM HEADING F; ITEM SPEED F; ITEM "FIND VELOCITY COMPONENTS" XX*= "941475 * SPEED * SIN(HEADING); XY*= SPEED * SIN(HEADING); XY*= SPEED * SOURHADING); XY*= SPEED * SOURHADING); XY*= STATATS * SPEED * COS(HEADING); XY*= SPEED * SOURHADING); SIN*PHITHACK=SAHT(1, - (SIN*PHITHACK)**2. COS*PHITHACK=SAHT(1, - (SIN*PHITHACK)**2. COS*PHITHACK=SAHT(1, - (SIN*PHITHACK)**2. COS*PHITHACK=SAHT(1, - (SIN*PHITHACK)**2. COS*PHITHACK=SAHT(1, - (SIN*PHITHACK)**2. THIND TRACK POSITION" XX = (2.* EANTH*RADIUS * COS*PHITHACK * * SIN(LONGTCENTER) / DIVISOR; * SIN(LONGTCENTER) / DIVISOR; * COS*PHITHACK * SIN*PHITHACK * * COS(LONGTCENTER)) / DIVISOR;	14.	SIN PHI TRACK
ITEN XX*= "947475 * SPEED * SIN(HEADING); YY*= "947475 * SPEED * SIN(HEADING); YY*= "947475 * SPEED * COS(HEADING); XX*= "947475 * SPEED * COS(HEADING); X*= "947475 * SPEED * COS(HEADING); X*= "947475 * SPEED * COS(HEADING); X*= COS'PHITHACK=SATAN(,9932733 * TAR(LATTRAC)****2. COS'PHITHACK=SATAN(,99327733 * TAR(LATTRAC)***2. COS'PHITHACK=SATAN(,99327733 * TAR(LATTRAC)***2. COS'PHITHACK=SATAN(,9932773 * TAR(LATTRAC)**2. "FIND TRACK POSITION" X*= COS'PHITHACK * COS'PHITHACK * * SIN(LONG'CENTER * SIN'PHITHACK * * SIN(LONG'CENTER)) / DIVISOR; * COS'PHITHACK * SIN'PHITHACK * * COS(LONG'CENTER)) / DIVISOR;	15.	
"FIND VELOCITY COMPOWENTS" XX"= "941475 * SPEED .* SIN(HEADING); YY"= 947475 * SPEED .* SIN(HEADING); SIN PHI THACK=ATAN(.99327733 * TAN(LATTHACS); COS PHI CENTER=ATAN(.99327733 * TAN(LATTHACS); COS PHI CENTER=ATAN(.99327733 * TAN(LATTHACS); COS PHI CENTER=SORT(1, (SIN PHI TRACK) **2; COS PHI CENTER=SORT(1, (SIN PHI TRACK) **2; "FIND FRACK BOSTION" "FIND TRACK POSITION" XX = (2, * EARTH FADIUS * COS PHI TRACK * * SIN(LONG CENTER) / DIVISOR; * SIN(LONG CENTER) / DIVISOR; "Y TRACK POSITION" XX = (2, * EARTH FADIUS * (SIN PHI TRACK * * SIN(LONG CENTER)) / DIVISOR; "Y TRACK POSITION" Y TRACK POSITION" Y TRACK POSITION" * SIN(LONG CENTER)) / DIVISOR; * COS PHI TRACK * SIN PHI CENTER * COS CONTER)) / DIVISOR;	. 9	
XX*= "PIND VELOCITY COMPOWENTS" XY*= "997475 * SPEED * SIN(HEADING); YY*= "917475 * SPEED * COS(HEADING); SIN*PHITTEACK=STATION (*99327733 * TAN(LATTEACCSINTEN)**2. COS*PHITTEACK=STATION (*99327733 * TAN(LATTEACCSINTEN)**2. COS*PHITTEACK=STATION (* 99327733 * TAN(LATTEACCSINTEN)**2. COS*PHITTEACK=STATION (* SIN*PHITTRACK)**2. "FIND TRACK POSITION" X TRACK POSITION" X X = (2, * EARTH*PADIUS * COS*PHITTRACK * * SIN(LONG*CENTER) / DIVISOR; * SIN(LONG*CENTER)) / DIVISOR; * COS*PHITTRACK * SIN*PHITTRACK * * SIN(LONG*CENTER)) / DIVISOR; * COS*PHITTRACK * SIN*PHITTRACK * * COS*PHITTRACK * SIN*PHITTRACK * * SIN(LONG*CENTER)) / DIVISOR; * COS*PHITTRACK * SIN*PHITTRACK * * COS*PHITTRACK * * COS	7.	DIVISOR
MEIND VELOCITY COMPONENTS" XX*= '941475 * SPEED * SIN(HEADING); YY*= 941475 * SPEED * COS(HEADING); SIN*PHITECK=ATAN(.9932733 * TAN(LATTRAC) SIN*PHITEREATAN(.99327733 * TAN(LATTRAC)**2. COS*PHITEREATAN(.99327733 * TAN(LATTRAC)**2. COS*PHITEREATAN(.99327733 * TAN(LATTRAC)**2. COS*PHITEREATAN(.99327733 * TAN(LATTRAC)**2. "FIND EARTH PADIUS" FIND TRACK POSITION" XX = (2.* EARTH PADIUS * COS*PHITRACK * SIN(LONG CENTER) / DIVISOR; * SIN(LONG CENTER) / DIVISOR; * COS*PHITRACK * SIN*PHITRACK * * SIN(LONG CENTER) / DIVISOR; * COS*PHITRACK * SIN*PHITRACK * * COS*PHITRACK * * COS*P	. 9.	
XX.= ,947475 * SPEED * SIN(HEADING); YY.= ,947475 * SPEED * COS(HEADING); SIN PHITTAGK=SINT COS OF THE TWO COOKDI SIN PHITTAGK=SINT (1, - (SIN PHITTAGK)**2, COS PHITCENTER=SART (1, - (SIN PHITTAGK)**2, COS PHITCENTER=SART (1, - (SIN PHITTAGK)**2, COS PHITCENTER=SART (1, - (SIN PHITTAGK)**2, COS PHITCENTER * SORT (1, - (SIN PHITTAGK)**2, WEIND TRACK POSITION" A COS PHITCENTER * SORT (1, - (SOS PHITTRACK * SIN PHITTRACK * SIN PHITTRACK * SIN CLONG CENTER) / DIVISOR; * SIN CLONG CENTER) / DIVISOR; * SIN CLONG CENTER)) / DIVISOR; * COS PHITTRACK * SIN PHITTRACK * - COS PHITTRACK * SIN PHITTRACK * COS PHITTRACK * COS PHITTRACK * SIN PHITTRACK * COS PHITTRACK * SIN PHITTRACK * COS PHITTRACK * COS PHITTRACK * SIN PHITTRACK * COS PHITTRACK * SIN PHITTRACK * COS PHITTRACK * SIN PHITTRACK * COS PHITTRACK * COS PHITTRACK * SIN PHITTRACK * SIN PHITTRACK * COS PHITTRACK * SIN PHITTRACK * COS PHITTRA		"FIND VELOCITY
TY = .947475 * SPEED * COS(HEADING); SIN PHI THACK=ATAN(.9932733 * TAN(LATTHACS); COS PHI CENTE=ATAN(.9932733 * TAN(LATTCENTE); COS PHI CENTER=STAT(1 (SIN PHI THACK)**2. COS PHI CENTER=STAT(1 (SIN PHI THACK)**2. "FIND EARTH PADIUS" "FIND EARTH PADIUS" "FIND TRACK POSITION" "Y TRACK POSITION" "X TRACK PUSITION" "X TRACK PUSITION" "X TRACK POSITION" "Y TRACK POSITION"		. 987475 * SPEED . * SIN(HEADING)
SIN'PHI'TPACK=ATAH(.99327733 * TAH(LAT'FRAC SIN'PHI'CENTER=ATAH(.99327733 * TAH(LAT'FRAC COS'PHI'THACK=SUHT(I (SIN'PHI'THACK)**2. COS'PHI'CHYTER=SORT(I (SIN'PHI'THACK)**2. COS'PHI'CENTERPNER * COS'CHTERPNER * SORT(I (COS'PHI'CENTER * SORT(I (COS'PHI'TENTER * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'CHOMG'CENTER) / DIVISOR; Y THACK POSITION" Y THACK POSITION" Y THACK POSITION" COS'PHI'TRACK * SIN'PHI'TRACK * (SIN'PHI'TRACK * SIN'PHI'TRACK * COS'PHI'TRACK * COS'PHI'TRACK * SIN'PHI'TRACK * COS'PHI'TRACK	•	.947475 * SPEED
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SIN PHITHACK STANK, 9932733 * TAKLLATTRAC SIN PHITHACK STANK	•	"FIND STN AND COS OF THE TWO COOKDINATE FRAMES"
COS'PHITTACK=SANT(1 (SIN'PHITTACK)**2. COS'PHITTACK=SANT(1 (SIN'PHITTACK)**2. COS'PHITTACK=SANT(1 (SIN'PHITTACK)**2. COS'PHITTACK POSITION" PIND TRACK POSITION" NY TRACK POSITION" XX = (2. * EARTH'RADIUS * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * SIN'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * COS'PHITTRACK * SIN'PHITTRACK * COS'PHITTRACK * C	•	STEEPING THE TRUE OF STEEPING OF STEEPING STEEPI
COS PHI THACK = SIN'PHI THACK) ** ** ** ** ** ** ** ** ** ** ** ** **		ON PHILLENIAN (99327133 * TAN (BAT CENTER))
EARTH RADIUS = 3444.054 * COS(LAI"CENTER) * (COS"PHICENTER * SORT(I.* - "FIND TRACK POSITION" * COS"PHI"TRACK * (2. * EARTH RADIUS * COS"PHI"TRACK * SIN"PHI"TRACK * SIN"PHI"TRACK * SIN"PHI"TRACK * SIN"PHI"TRACK * COS"PHI"TRACK * SIN"PHI"TRACK * SIN"PHI"TRACK * SIN"PHI"TRACK * SIN"PHI"TRACK * COS"PHI"TRACK * COS"PHI"TRACK * SIN"PHI"TRACK * COS"PHI"TRACK * SIN"PHI"TRACK * COS"PHI"TRACK * COS"PHI"T		CON VEHICLE CONTROL (STATE OF THE CONTROL OF THE CO
#FIND EARTH PADIUS" EARTH"RADIUS = 3444.054 * COS(LAT*CENTER) / (COS*PHI*CENTER * SORT(1) #FIND TRACK POSITION" * COS*PHI*CENTER * SIN*PHI*TRACK * * COS*PHI*CENTER * COS*PHI*TRACK * * X TRACK PUSITION" * X = (2 * EARTH"RADIUS * COS*PHI*TRACK * * SIN(LONG*CENTER)) / DIVISOR; # SIN(LONG*CENTER)) / DIVISOR; * COS*PHI*TRACK * SIN*PHI*TRACK * * COS*PHI*TRACK * SIN*PHI*TRACK * * COS*PHI*TRACK * SIN*PHI*TRACK * * COS*CHOR** SIN*PHI*TRACK *		CONTRACTOR OF THE CONTRACTOR O
EARTH * RADIUS = AA44, w54 * COS(LAT'CENTER) (COS'PHI'CENTER * SORT(I. * COS'PHI'CENTER * SORT(I. * COS'PHI'CENTER * SORT(I. * EARTH * FIN'PHI'TRACK * COS'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'PHI'TRACK * SIN'LOMG'CENTER)) / DIVISOR; (X = (2. * EARTH * HADIUS * COS'PHI'TRACK * SIN'PHI'TRACK * COS'PHI'TRACK * COS'PHI'TRACK * COS'PHI'TRACK * SIN'PHI'TRACK * COS'PHI'TRACK * COS'PHI'TRACK * SIN'PHI'TRACK * COS'PHI'TRACK * COS'PHI'TRAC		
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CHARACTERS	1292	
Lines	95	
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VET VOICES	61	
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F. N. I.	_	5,26
ITEM	15	78,95
Design	1	5,26
PETURN	-	5,26
COMMENTS	10	4,29
DIRECTIVES	1	0,43
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JAWF.S	99	29.18
Coxpor	-	1.47
PROC	15	22.6
SI FLE-ITEM	52	76.47
DECLARATIONS	16	
SIMPLE-ILES	15	93.75
40N-BASED	15	100.0
PROC	1	6.25
STATEMENES	30	
SINGLE ASSIGNMENT	10	33,33
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Part		0016	002C L	180	0, b. 2C
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######################################		9636	1 22 m	DST	W.L.2C
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0000		8400	M106 H	10	o, (4.2ddadadel)
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### C7-c0 841E L FF		C100	0.012 L	≥ In.	0,005 PHI TR
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н 8420 0014 Б DL		C183	Millo L	<u>د</u> .	IN THE PROPERTY OF THE PROPERT
H C120 0012 I, FM		8420	0114 L	DE	Z.S.IN. PHI. CE.
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	MELL				RESERV	14:	20.	22	25	27
FFOC *GLOHAL* * *** *** *** *** *** *** *** *** **	1 FEM		1	1	RESERV	16:	100	19		
EW PROC *GLORAL* when F & 32 & 2; 28 21 ITEM CONDINATE whole F & 32 RESERV 3; 26* ITEM CORDINATE whole F & 32 RESERV 5; 18* ITEM CORDINATE whole F & 32 RESERV 5; 18* ITEM CORDINATE whole F & 32 RESERV 6; 19* AVAHIALES VAHIALES WANG = 0020 VCTIONSCONSTANTS 8ARW = 8107 ANS: TAN SOHI SIN COS JTIDS ATAN ANS: COORD! ITEM CONDINATE WANG = 0020 ANS: TAN SOHI SIN COS JTIDS ATAN ANS: COORD! ITEMS 3 MESSAGES: 3 INFORMATION	PEUC				0	2:	22	23	24	
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Y COORDINATE GAMEL F & 32 RESERV 6: ANSTANTS BARW - 8187 STAT SIM COS JTIDS ATAM ED: 9/14/76 9:36 CMP:JTIDS SSAGES: 3 INFORMATION 400 SEC	1164				RESFRV	4:	27*			
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		10011								

APPENDIX B

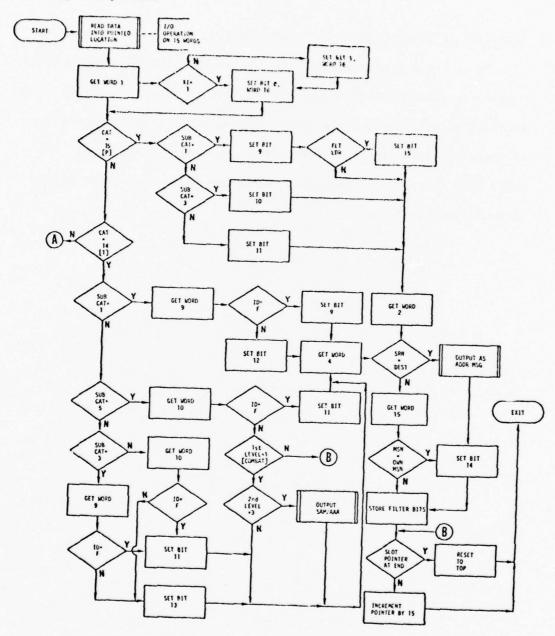
ALGORITHM #2, ACCEPT/HASH/STORE

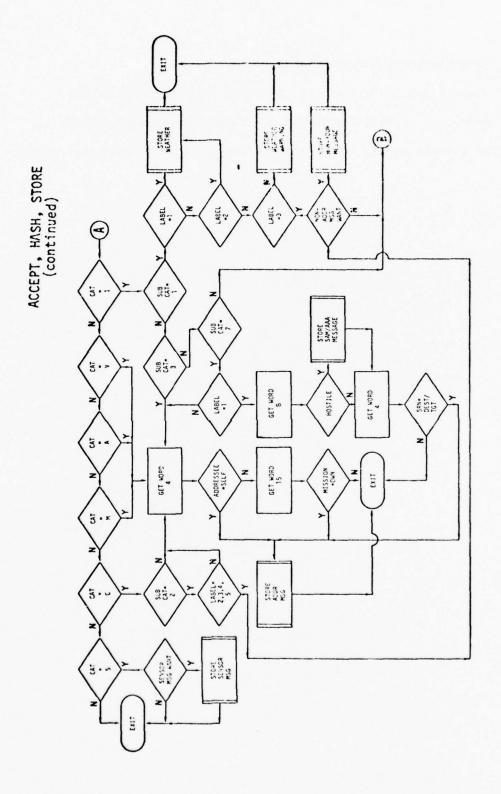
(ORIGINAL JTIDS FLOW CHART)

ALGORITHM #2 (ACCEPT/HASH/STORE) DESCRIPTION:

The charted algorithm examines a received JTIDS message for the LIBRARY or INPUT MESSAGE MANAGEMENT functions. It codes bits to indicate whether the message uses simulated or live data and whether it contained friendly or hostile ground, air or sea data, etc. The logic flow chart, as received from the JTIDS Office, is shown on the attached two pages.

ACCEPT, HASH, STORE





ASSEMBLY LANGUAGE IMPLEMENTATION

The following pages are the resultant assembler output for Algorithm #2, ACCEPT/HASH/STORE. The procedure (named ACHAST) is coded exactly as the original JTIDS specification (flowchart) dictated.

AAAAAAAA	00000000000	HHH		AAAAAAA	AAAA	555555555555	11111111111111
CANANAAAA	2000000000	HHH	ннн	AAAAAAAA	AAAA	55555555555	TTTTTTTTTTTTTT
CARARARA	ממממממממממ	нни	HIIH	AAAAAAAA	AAAA	555555555555	TITTTTTTTTTTTTT
AAA	222	нян	нин	AAA	AAA	555	TTI
AAA	200	HHH	нин	AAA	AVA	555	TTT
ANA	200	HHE	нин	AAA	AAA	SSS	TTI
AAA	202	HHH	ннн	AAA	AVA	SSS	TTT
AAA	200	HHH	HHH	AAA	AAA	555	TII
	000	HHH	HHH	AAA	AAA	555	TTT
	200	нинининининин	нининн	AAA	AAA	55555555	TIT
	200	нининининини	ннинин	AAA	AAA	55555555	111
AAA	200	нинининининини	ининин	AAA	AAA	SSSSSSSS	111
AAAAAAAAAAAAA	200	ннн	HHH	AAAAAAAAAAAA	AAAAAA	888	TIT
AAAAAAAAAAAAA	200	HHH	HHH	AAAAAAAAAAAA	AAAAA	588	TTT
ASASASASASASA	200	нин	HHH	AAAAAAAAAAAAA	AAAAAA	555	TTT
444		ННН	нин	AAA	AAA	888	TTT
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LDTSPL Version 6(147) Funning on LPTW11

STARI User HURLAKOPF (32.2,1375) Joh JTIDS Seq, 521 Date 14-Sep-76 10:03:39 Monitor AFAL 602,15 SYSTEM *STARI*

Request created: 14-Sep-76 10:04:11

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FILE RILL DE GELEGE AFTER TARBOW FILE:ASCII /COPIFS:1 /SPACING:1 /LWIT:316 /FORMS:NORMAL

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0014	14	6660	SRN	STORAGE	
0410	17	9999	FILTFR'R	SAM AAA STORAGE FILTER R	STORAGE 1
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W-521	21	0133	SECOND	T, Q	1
0.022	2.5	0000	WEAT	WEATHER STORAGE	- 1
5023	5023	3330	DESTAGE	TGT	STORAGE 1
0.425	25	3000	HOST	HUSTILE STORAGE	
43.26	26	0000	SEI,F	STORAGE	1
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6200	67	9430	MISS	MISSION STORAGE	1
COZA	2 A	0000	SENSOP	M. de	STORAGE 1
95.50	56	3335	SLOT POIL	STORAGE	STORAGE
. 42D	20	6000	END POIN	NIO	STORAGE 1
NAZE	2E	9000	TOP POIN	NIO	STORAGE 1
42 V O	34.	9999	SAVE	STORAGE 3	9
			-		
				ENTRY T	ENTRY TO MAIN PROGRAM
6032	32 9520	5 MAZE	R ACHAST		
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200		1		18	R2.READ
				d b	XI, CHECK IF EQ 1
000	0018 BE00	1	a a	1	RA, XI
N.0.3A			A	CIM	R0,1
2664	35 7020	0040	·	JC IF NE 1	1. SET BIT I IN WORD'16
2	0198 3600	0100 0	a.	SB SFT RIT	1, ACRD'16
1.0	5000 SAVA	2122	AA.		V ** 080 16
				-	WORD[1] , STOPE IN CAT
V. 542	45 8010	0000	æ	2	L RI. MORD
1.444					

CIM RI, P . OJC DATEGORY = E. P. T. LUAD SUB CAT. CHECK IF EQ 1 LUAD SUB CAT. CHECK IF EQ 1 CIM RE, P SCREI SUB CAT EQ 1, SET BIT 9 SUB CAT EQ 1, SET BIT 9 SUB CAT EVER EQ 3 CHECK IF FLT EQ 1, DR FLT EQ

ĺ	SSBA	F310	3305	4	T SC5	CIM	CHECK IF SUB-CAT EG 5
	DRAN	7050	SAAC	æ	1	30	NE, T'SC3
						GET WORD	GET WORD[10] OF DATA
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	2900	F 300	4620	4		CHECK IF	CHECK IF TO EQ 'F'
PROGRA';	ACTIAST	ST	PAGE	4	DAIS HB	C ASSEMB	DAIS HBC ASSEMBLER; VERSION DOI
CA	LOCATION	r	нех соре	V	MANUSCRIPT		
	6655	7850	491.N	x			NE,T'FL
	9000	Saka	0100	a		1F E0 'F	"F", SET BIT 11 WORD"16
	8600	70F0	9384	x			TARDA
	40.	914.10	4.13.1		1000	4ECK	IF FIRST LEVEL NE 1
	3624	F 36.0	NOON I	× 4	2	CIM	RU,1
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	1. A. A.	1777	10.00	3		רטנירא זנ	PALSECOND LEVEL EN 3
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1	0 4		4 1 1 2		4,603		- 1
	SAR	7050	9446	ťα		30	WE, I WESC3
	CARO	0.008	2009	α		GET WORD	GET WORD[9] OF DATA
1	3.342	30.00	3100	α.		ST	RW, ID
	9446	JOEN	ANHA	α		0	T'IDF
	9444	8344	Kuns	x	T'NESC3		GET WORD(10) OF DATA 1. RO. WORD+10
	2558	6006	SOIF	α			ST RAID
1	Anto	F. 300	457.	A	TIDE	NO WID	ROFE
	NOBC	7050	2000	ťχ		30	AE, T'NEIDF
1	304	1,000	4.44.4	0		SET BIT	11 OF WORD 16
1	2000	7010	0.184	x			T wHD4
					•	I HIT	13 OF MORD*16
1	77.05	2000	0700	α	TARIDE	88	13, WORD 16
	10C4	7.08.0	499	œ.		2	T'ARD4
						CAT'PT	
1	1		0			FO=SRN	9 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
1	2000	0004	0100	2	CAT'PT	1	ROLDEST
	4364	7050	0000	œ		SKN	NE, PITNED EQ DEST, OUTPUT ADDR'MSG, SET HIT 14 OF WORD'16
1	CACA	5089	0010	2			14, WORD 16
1	2200	834.7	4100	α,		× 1.1	15, ADDR MSG
	1000		1111	<		CET WORD	GET WORD 151 OF DATA
-	A ALLA	RECH	BASS GASE	1	DENER	1	RW. WORD+15

95.04 MO2C H 8F2.0 CO2F R 74.F2 E0000 A F31.2 4920 A F31.2 4920 A F32.0 614E R 800.1 A 105.0 6124 R F30.0 00.13 R F30.0 00.12 R F30.0 00.10 R 775.0 010E R 775.0 010E R 775.0 010E R 775.0 010E R	901	11 00 00 00 00 00 00 00	1485 1485 1485 1720		x x x x x x x x x x x x x x x x x x x	MANUSCRIPT COM'B COM'B	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
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1		1 1 1	R . 6 DAIS H	JC NE,COM*B **AMT NON*ADDR*MSG STORE NON*ADDR LIM R15,dOM*ADDR LIM R15,dOM*ADDR
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12	1			1
3	1		•	J CHECK IF
35	F364 0003		A 1'SC3	CIM RU, 3 JC NE, 1'8C7
7080	M 015A		·	SUHCAI=3, GOTO CAI"VAM J CAI"VAM
F340	1		A I'SC7	CHECK IF SUB CAT=7 CIM H0,7
71.54	3000 W			JC NE,COM*B SUBCAT=7, CHECK IF LABEL=1
8500 F300	0 00015		24	
7.050			·	,1=1;
8010 9010	0 6725		a æ	L KI, MORD+8 ST KI, MOSTILE
F310				CHECK IF HOSTILE CIM R1,1
7050	0140			JC NE,1 ARD4 HOSTILE=OU, STORF SAM/AAA
8 3FV	1		ar ar	4 K15, SA 4 A
77	1 0121	1		US RZ, WRITE
8010		1	R I'WRD4	1
41.46	1	- 1		SEE IF SPACEDEST
7555	0 00F0		ax a	C K1, DEST'TGT
2.45	1			SRN=DEST, STORE ADDR*MSG
122.	1		×	US P2, APITE
TWFO	o sore		. a	SEE BE CATEGORY IS V A OR W
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2198 83E5 0010 R 6194 7224 0173 X 6195 70E0 00F0 R 0195 F300 5320 A NEXT'S 6154 7755 00F0 R	70	v194	7050	1	α α		10.000
019C 70FU GAFU R 019E F3W0 532W A "EXT'S 011AA 705A 00FU R 011AA 80AU 002A R	55	2198	1227		4		M NA
0196 F340 5324 A "EXT'S 011AA 7054 0076 R 01A2 8000 002A R	101	0190	7080	1	e ac		
UIAZ BUNU UNZA R	100	N19E	F300	5320	4 2		×
	373	O1A2	8000	1	α.		CATEGORY IS S CHECK TO STORE SENSOR*MSG L. HØ, SENSOR*M

375	NIAD	acar	9969	x		ODE SENSOR M	986	
	01A8		430A	2		LIM RIS, SENSOR'M	SNSOR*M	
378	0144	7226	4610	×	75	RZ.WRITE	ITE	
3443 FHOGRAME	ALAC 7	70Fe	MAFF	a &	DAIS HEC	DAIS HBC ASSEMBLER; VERSION	KERSION 001	
LIVE LOC	LOCATION	Ĥ	HEX CODE	A	MANUSCRIPT			
341					13	END		
. NO STANT	1	ESS EN	AUDRESS ENCOUNTERED	ED				
J EPHOR(S)		THIS RUN.						
1 SYMMOLS		* A	ASSIGNMENT **	ENT *	LINE	MUL DEF	ATTRIBUTE	
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ADDRESSE		8200		40	70,		æ	
ADDR MSG		9100		30	99		æ	
14.8		WUEA		234	231		α	
CAI	-	6412		18	48		œ	
CALPI		9300		861	202		α	
CAFTAN		015A		346	321		<u>~</u>	
9,100	-	3000		222	223		œ.	
C'CAH		2613		402	361		α	
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31	264	270	286	292	298	320	** ASSIGNMENT **	21	25	1	-	41	26	5	334	108	374	244	414	62	240	102	39	11	218	238	173	7.6	192
4100	0108	3010	3116	N124	312A	W 40	1 -	0015	51a2	8 WW 9	1030	4:29	001A	5000	3414	2900	9116	67.E4	2610	0100	DOFO	4Duce	3627	87.18	FODA	ngen	3064	2300	0366
10	1.5812	1,543	Lenes	1.803	1,80,1	1.4404	I SYMOLS	CAINE	Lnp	LF.	LT	VOISSIV	4SA		O VEAT VA	YE.KT'T	MEXTO	1.1384	VEXT'S	NON ADDR	100	OURPUT	N*0	040 480	91.16	0.35.19	p-SC4E3	13°,25.d	P ARINZ

53	A	4	A	A	MUL DEF ATTRIBUTE	A	4	A	A	A	A	A	A	Ą	A	A	A	α	æ	. В	α	æ	æ	x	æ	α	×	×	α
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\$5	3	1	10	111	** ASSIGNMENT **	12	13	14	15	2	3	4	5	9	1	8	6	22	47	33	38	42	44	26	61	46	154	186	130
4637	4000	0461	Aoen	9000	** ASSI	Dean	Gero	3000	HOOP	0002	64443	4004	5:000	90.00	6000	8000	6000	9160	DOZE	3421	90056	002A	NW2C	\$100	6013	MAZE	V660	рива	2800
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æ	æ	æ	ATTRIBUTE	ď	α	Ж	æ	ж	æ	æ	æ	EX	α							
197	188	181	LINE MUL DEF	157	153	332	73	99	64	45	46	31,	47							
194	182	172	** ASSIGNMENT **	1.38	132	360	43	35	34	a	16	427	17	SGNO						
9962	9900	SHAC	** ASS	AHHA	5984	8916	4956	6023	6022	ann	0100	. 1AB	1100	= 185 SECONDS						
TATIOF	TNESC3	1.863	SYNHOLS	1,303	I WRO4	VANTNES	MA-4T	MEATHER	WEATHER	AORD	MORD 16	3H17E	1 X	ELAPSED TIME =						

JOVIAL-73/I IMPLEMENTATION

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The following pages are the resultant compiler output for the JOVIAL-73/I compilation of Algorithm #2, ACCEPT/HASH/STORE. This procedure (named MBLT) is coded exactly as the original JTIDS specification (flow chart) dictated.

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EPTSPL Version 5(347) Punning on LPINII

STARI User BURLANUER (3242,1376) Job MBLT Seq. 566 Date 14-Sep-76 14:40:46 Monitor AFAL 602,15 SYSTEM *STARI**
Request created: 14-Sep-76 14:41:28

FILE: DSKNI:MPLT_LST3272,1375 Created: 14-Sep-76 14:39:00 Printed: 14-Sep-76 14:41:02

FILE: DSKNI:MPLT_LST3272,1375 Created: 14-Sep-76 14:39:00 Printed: 14-Sep-76 14:41:02

FILE: MILL PRINTERPROWER FILE:ASCIL /COPIES:1 /SPACING:1 /LIMIT:87 /FORMS:NORMAL

	AGELT AND TENHELL AND THE CHACK AND	
	PROC ACCEPT HASH STORE;	
	X	
	"EXTERNAL DECLARATIONS"	
	ITEA WORD'16 D;	
4.	"LOÇAL DECLARATIONS"	
• •	TANDE DATA[1:15] 1;	
6.0	ITEN MORD C 21	C 2[0,0];
7.	CAT	
	FLT	
	-	
12.		
	SECOND LEVEL	
-	ADDRESE	
16.	LABEL 113	
17.	HOSTILE	
	ITEN 4SN UP	
	iles Mission up	
	MANI	
23.	ITES DEST'US	
	SENSOR MSG	
	OMM MSN UP	
27.	ITEM SELF U;	
	SAM AAA U;	
24.		
301.	ADDR MSG	
32.	ITEA WEATHER U; ITEA WEATHER WARNING U;	
33.		
	STOLE FOLKIER	
35.	ITE: TOP POINTER U:	
36.	MAIN; "GOES	TO MAIN PROGRAM"

JOVIAL V. AB2HTB 9/14/76 14:39 MODULE: MBLT. ASM PAGE 2		THIS IS COMMON BETWEEN CAFEGORY P AND T	"IT CHECKS IF SRN E9 DESI, IF SO OUTPUTS ADDR"MSG AND SETS BIT 14 "	IF NOT, GETS WORD 15, CHECKS IF OWN MSN, IF SO, SETS BIT 14"	"IT STORES FILTER"BITS AND PERFORMS BIK'10	I		IF SRN = DEST;	"N3HL"	BEGIN "SRN EQ DEST"	OUTPUT(ADDR*MSG); "OUTPUT ADDR*MSG"	BIT(WORD"16,14)=1; "SET BIT 14"	END "SRN EG DEST"	3873	BEGIN "SRN NE DEST"	MSN=WORD[15]; "GET WORD 15"	L RON II OBO II AGN	THEN	BIT(WORD"16,14)=1; "SET BIT 14"	END "SRN NE DEST"	WRITEW(FILTER*HITS); "STORE FILTER BITS"		
176 9/14/								HLK 8:															:EJECT;
14L V. 3628	34.	34.	3н.	38.	38.	38.	3н.	34.	39.	39.	39.	40.	41.	42.	42.	43.	44.	15.	45.	.01	47.	48.	48.
307							-																

664.	
64.	" ENTRY TO MAIN PROGRAM "
54.	availand impropries think that announce of the particular announce of the p
64.	2.
04.	3. LOCATE CODE FOR CURRENT CALEGORY
64.	
94.	5. EXIT, EXITS IF NOT VALID CATEGORY
	91);
	7 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
-	- 1
67.	THE TANK THE COROLL IN
N. C.	SET HIT OF
.60	
10.	1
70.	
7.7	"WHEN CATEGORY IS FOUNT. TO D. THE CODE "
70.	THE CANADALES SINCE THE CANADALES
1.4	1
14.	1
70.	S. WILL SET SLOT'POINTER"
.0.	1
70.	G
	IF SUBCAT = 1;
71.	
1.	"SEI BII 9"
73	11. 11. 10.
74.	FALL TARING TO THE CALCULATION OF THE STATE
18.	
75.	BEGIN "SUB CAT NE II
76.	TRYATE AS
77.	
11.	TOTAL
74.	
1	111 11 11 11 11 11 11 11 11 11 11 11 11
. 38	
× × ×	
82.	
	10 VI A10
	CALEN
H.4.	
94.	35:13
34.	BESTN "CAT SE B"
	+

	"THEN"
8 8 6	"MHEN CATEGORY IS P. THE CODE"
86.	" I. MAY CHECK SUH CAT TO SRN. FIRST 'IEVEL WSN. SLOT POINTER"
	2.
• 000	
*08	•
	o. alco sei sico Poinifr.
86.	BEGIN "CAT ED T"
46.	JB.
87.	
91.	BCAT
• 000	ID=ACRIG91; ACET WORD 9"
89.	E MARKET
.66	NT (MORO 16.9)=1: "SET RIT 9"
.00	
	12)=
92. T**RD4:	SRUE NORD 4"
935	BLK
95.	FILST FOUR CAL FO 1"
9.6	CDSC CAT ME IN
96.	æ
97.	"THEN"
97.	CAT
97.	
000	11 10 = 16.5
. 65	EG CA CLE NICATI
.66	ORC
1.34	
101.	END "ID EG F"
192.	ĺ
193.	GEGIN TO NE FT
****	11 TO 100 TO 11
144.	15
144.	IF SECOND'LEVEL # 3;
105.	
125	LEVEL EQ
1046	OITPOILSAM AAAJ
107.	FAND TAKENDAT TAKENDA
1. 4.	ST
109.	FLSF
110.	GOTO HUK'TO;
113	The Control of the Party of the
113.	
113.	BEGIN *SUB*CAT NE S*
114.	IF SUB CAT = 3;

EDS THE TO THE TO	115.	
The	115.	ELSE
ELSE END END END END END END END E	117.	ID=WORD(18);
ELDS END END END END END END END E	119.	HTHEN
END END "SCH RE I" END "CAT EG I" "SCH RE S" END "CAT EG I" "SCH CAT RE I" IF CAT EG I" "SCH CAT RE I" "MHEN CATEGORY IS I, THE CODE" "MHEN CATEGORY IS I, THE CODE THE THEN CHAPTER" "MHEN CATEGORY IS I, THE CODE THEN THEN CHAPTER" "MHEN CATEGORY IS I, THE CODE THEN THEN CHAPTER MEATHER THEN CHAPTER THE THEN CHAPTER THEN CHAPTE	174.	BIT(WORD 16,11)=1; "SET BIT
END "SONO TYPE 1. END "SONO TYPE 1. IF CAT = 1'; "MARN CAPECANY IS I, THE CODE" "ACHEN CATEGORY IS I, THE CODE TO THE CATEGORY IS INTERVED TO THE CATEGORY IS INTERVED. "THEN "TH	121.	WORD 16,13)=1; "SET BIT
ELDSE ELDSE F CAT NE T* IF CAT = I; IF CAT = I; IN Y CHER VARIABLES SUR CATLLARELFROM FADDR FIS " ANY CHER VARIABLES SUR CATLLARELFROM FADDR FIS " THEN " SUB-CAT EQ I" " STORE WEATHER" " THEN " THE	122.	A TA
ELSE ELSE "AHEN CAT NE T" "AHEN CATEGORY IS IT THE CODE" "AHEN CATEGORY IS IT THE CODE" "ANDRESS N'S SEION SOLOT FOLINEER " 2, MAY RESEI SIOT FOLINEER" MARVING NON ADDR'NS " 3, MAY RESEI SIOT FOLITER" WARVING NON ADDR'NS " 18 UB'CAT = 17 "THEN "ANDRE WEATHER?" " SIDE CATEGORY IS IT THE CODE" " ANDRESS N'S SEION FOLINEER" " STORE WEATHER. " SIDE CATEGORY IS IT THE CATEGORY SEION SOLOT SEION TO THE CATEGORY SEION TO THE CATEGORY SEION THE CATEGORY SEION TO THE CATEGORY SEION S	124.	END "SUB"CAT NE 1"
BEGIN "CAT NE T" IF CAT = "" "" AHEN CATECORY IS IT THE CODE" "" ANDRESSE NEW CATTLAREL, HOW ADOR THE " ANDRESSE NEW CATTLAREL, HOW ANDREN THE NEW THERE " ANDRESSE NEW THERE NEW THERE NEW THERE BEGIN "LANEL HE I OP 2" "THEN" "THEN	125.	"CAT EG
ELSE	126.	
IF THEM "AHEN CATEGORY IS I, THE CODE" "AND CATEGORY IS I, THE CODE" " 2, MAY CATEGORY IS SOUNCAT, LAREL, HOW ADDRYNS " 3, MAY CATEGORY IS INTERPRETER WARNING, NON ADDRYNS " 3, MAY CATEGO I" " 1F SUBCAT = 1) "THEN " SUBCAT = 1) "THEN " SUBCAT E 2) "THEN " "STORE WEATHER" "THEN " "STORE WEATHER" "THEN " "STORE WEATHER" "THEN " "AND ADDRYNS); "ELSE "ELSE "END "LAREL E 3 3" "THEN " "AND ADDRYNS); "ELSE "THEN " "AND ADDRYNS); "ELSE "THEN " "AND ADDRYNS); "THEN " "THEN " "AND ADDRYNS); "ELSE "END " "AND ADDRYNS); "ELSE "END " "AND ADDRYNS); "END " "AND ADDRYNS); "END " "AND ADDRYNS); "THEN " "AND ADDRYNS);	126.	E T C III
"AHEN CATECORY IS I, THE CODE" "ADDRESS BIN CATLAHELINON ADDR'NS "ADDRESS BIN CATLAHELINON ADDR'NS "ADDRESS BIN CALLAHER "ARRING, NON ADDR'NS BEGIN "CAT EQ I" IF SUB CAT EQ I" IF CLAREL = 1) OR (LABEL = 2); THEN "SUB CAT EQ I" IF LAREL = 3; THEN "LAREL BE I OR 2" IF LAREL = 3; THEN "THEN "LABEL EQ 3" BEGIN "LABEL EQ 3" ELSE END "LAREL BY "SUB CAT EQ 1" THEN "THEN "THEN "THEN "SUB CAT EQ 1" THEN "THEN "THEN "THEN "THEN TAREL NO SO STATE OF THE STATE OF T	127.	AT = TO
" AHEN CAPEGORY IS I. THE CODE" " 2. MAI STORE NA SEGULAGUITER MANING, NON ADDR'NS SEGULAGUITER MENTINE MENTER MESSE IN SEGULAGUITER MENTER MESSE IN SEGULAGUITER MESSE IN SEGULAGUITER MESSE IN SEGULAGUITER MESSE IN SEGULATION TO SEGULATION	124.	- 1
## 1. NAY CHECK VARIALLES SUR-CATTLAREL, NON-ADDR'NS ## 2. MAY RESE! SIGT-COLINER" ## SUB-CAT = 1, ## SUB	128.	
BEGIN "CAT EQ I" IF SUB/CAT = 1) IF SUB/CAT = 1) IF (LAREL = 1) OR (LABEL = 2); THEN" BEGIN "LAREL NE 1 OR 2" IF LARE = 3; THEN" BEGIN "LAREL EQ 3" IF LAREL = 3; THEN" BEGIN "LAREL EQ 3" IF LAREL E 3; THAN" BEGIN "LAREL EQ 3" BEGIN "LAREL EQ 3" IF NON ADDR'NSG); ELSE BEGIN "LAREL EQ 3" IF NON ADDR'NSG); ELSE BEGIN "LAREL EQ 3" IF NON ADDR'NSG); ELSE BEGIN "LAREL EQ 3" IF NON ADDR'NSG); BEGIN "LAREL NE 1 OR 2" THARITEM (NON' ADDR'NSG); BEGIN "SUB/CAT EQ 1" IF ARREL NE 1 OR 2" THARITEM (NON' ADDR'NSG); BEGIN "SUB/CAT EQ 1" IF ARREL NE 1 OR 2" THARITEM (NON' ADDR'NSG); BEGIN "SUB/CAT EQ 1" IF SUB/CAT EQ 1" THARITEM (NON' ADDR'NSG); BEGIN "SUB/CAT EQ 1" IF SUB/CAT EQ 1" THARITEM (NON' ADDR'NSG); BEGIN "SUB/CAT EQ 1" IF SUB/CAT = 3;	146.	5
HEGIN "CAT EQ I" IF "THEN" "SUB-CAT EQ I" IF (LABEL = 1) OR (LABEL = 2); IF (LABEL = 1) OR (LABEL EQ I" BEGIN "ANTIEW (WEATHER); "STORE WEATHER" BEGIN "LABEL BY "LABEL BY "STORE WEATHER" BEGIN "LABEL BY "STORE WEATHER" BEGIN "LABEL BY "STORE WEATHER" BEGIN "LABEL EQ 3" IF NOW ADDR'NSG); ELSE END "LABEL EQ 3" ELSE END "LABEL EQ 3" ELSE BRO "LABEL EQ 3" ELSE BRO "LABEL BY I" END "LABEL EQ 3" ELSE BRO "LABEL BY I" END "LABEL EQ 3" END "LABEL EQ 3" END "LABEL EQ 3" END "LABEL EQ 3" END "LABEL BY I" END "LABEL BY I" END "LABEL BY I" END "LABEL BY I" IF SUB-CAT = 3; IF SUB-CAT = 3;	128.	•
BEGIN "CAT EQ I" "THEN" "THEN" "THEN" BEGIN "LABEL = 2); "THEN" BEGIN "LABEL = 2); "THEN" "THEN" BEGIN "LABEL EQ 3" IF NON ADDR "ADDR "ADDR" ADDR" ADDR ADDR	128.	Z. MAY
BEGIN "SUB-CAT EQ I" "THEN" BEGIN "SUB-CAT EQ I" IF (LAREL = 1) OR (LABEL = 2); FIELSE BEGIN "LAREL BE OR I" IF NON ADDR'NSG = WANT; "THEN"	128	3. MAY RESET
IF SUB"CAT EN 1" "THEN" "THEN" "THEN" "THEN" "THEN" "ELSE BEGIN "LAREL EQ 3" "THEN" "SUSTAT EQ 1" "SUGTOR BLATH "THEN" "THE	124.	NI
BEGIN "SUB-CAT EU 1" IF (LAMEL = 1) OR (LAMEL = 2); THEN" BEGIN "LAMEL NE 1 OR 2" IF LAMEL = 3; IF NOW ADDR'NSG; ELSE END "LAMEL EQ 3" ELSE END "LAMEL EQ 3" ELSE END "LAMEL EQ 3" IT NOW ADDR'NSG); END "LAMEL EQ 3" END "LAMEL NE 1 OR 2" IF SUB-CAT NE 1" IF SUB-CAT NE 1" IF SUB-CAT NE 1"	124.	1
IF (LABEL = 1); "THEN" ARITEM(WEATHER); " "STORE WEATHER" ELSE BEGIN "LAREL BG 3" IF LAREL BG 3" IF NON ADDR'NSG); "THEN" BEGIN "LAREL BG 3" "THEN" WHITEW(NON ADDR'NSG); ELSE END "LABEL BG 3" ELSE END "LABEL BG 3" BEGIN "LABEL BG 3" ELSE BEGIN "LABEL BG 3" IF NON ADDR'NSG); ELSE BEGIN "SUGTON BI OR 2" IF SUGTON SUGTON BI OR 2" IF NON ADDR'NSG); IF N	124.	GIN
ELSE BEGIN "LAMEL B 1 OP 2" IF LABEL B 3; "THEN" "THEN" "THEN" "THEN" "THEN "ANT; "THEN " "STORE WEATHER" "THEN " "ANT; "THEN " "STORE WEATHER" "THEN " "ANT; "THEN " "STORE WEATHER"	129.	ABEL = 1) OR (LABEL =
ELSE BEGIN "LAMEL NE 1 OR 2" IF LABEL = 3; "THEN" BEGIN "LAMEL EQ 3" IF NON ADDR NSG = NANT; "THEN" ELSE GOTO BLK'10; ELSE ELSE ELSE ELSE BEGIN "LAMEL EQ 3" ITABEL EQ 3" SUSCOT ELSE BEGIN "SUSCOT EQ 1" IF SUSCOT E 1 NE 1 OR 2" ITABEN I	130.	TTERCHENTHED).
BEGIN "LANEL NE 1 OR 2" IF LABEL = 3; "THEN" BEGIN "TANEL EQ 3" IF NON ADDR'NSG); "THEN" WHITEW(NON ADDR'NSG); ELSE ELSE ELSE ELSE ELSE ELSE ELSE BEGIN "SUSTCAT EQ 1" IF SUSTCAT EQ 1" IF SUSTCAT EQ 1" IF SUSTCAT EQ 1" IF NON ADDR'NSG); IF SUSTCAT EQ 1" IF NON ADDR'NSG); IF NON "SUSTCAT EQ 1" IF NON ADDR'NSG); IF NON	131.	The state of the s
IF LABEL = 3; "THEN" "LABEL EQ 3" IF NON ADDR'NSG = MANT; "THEN" "THEN" "THEN" "THEN" "THEN (NON ADDR'NSG); ELSE END "LABEL EQ 3" ELSE END "LABEL EQ 3" ELSE END "LABEL NE 1 OR 2" IF NO "SUSTAT EQ 1" IF NO "	131.	SEGIN "LAREL NE 1 OR
BEGIN "LAMEL EQ 3" "THEN" THEN" TON "ADDR"NSG); ELSE ELSE ELSE END "LAMEL NE 3" ELSE END "LAMEL NE 1 OR 2" ELSE END "ELSE BEGIN "SUS"CAT EQ 1" IF NOW "SUS"CAT EQ 1" IF SUBCAT = 3; ITHEN	132.	
IT NON TABLE HART; "THEN" WRITEW(NON TABLE NSG); ELSE ELSE END TABEL NS 1 OR 2" IT SUBCAT = 3; IT SUBCAT = 3;	133.	15
ELSE GOTO BLK'10; END ELSE RABEL EG 3* ELSE END WRITEW(WEATHER'ARRING); END ELSE END ELSE END ELSE END ELSE END TABEL EG 3* ATTEW(WEATHER'ARRING); IN SUBSTATEM IN S	134.	1
ELSE GOTO BLK'10; END ELSE WRITEW(WEATHER'AARNING); END END END ELSE BEGIN "SUS'CAT EQ I" IF SUBCAT = 3;	134.	WHITEW (NOW ADDR "NSG). "STONE NOW YES
ELSE ELSE WRITEW(WEATHER AARNING); END END ELSE ELSE BEGIN "SUSCAT EQ I" IF SUSCAT = 3; IT SUSCAT = 3;	135.	
ELSE WRITEW(WEATHER WARNING); END END ELSE BEGIN "SUG-CAT EQ I" IF SUG-CAT = 3; IT THEN	137.	
END "LAMEL NE 1 OR 2" ELSE BEGIN "SUS CAT BE 1" IF SUS CAT = 3; ITHEN	138.	ELSE "LABEL EU 3"
ELSE BEGIN "SUB-CAT IF SUB-CAT = 3;	149.	
BEGIN "SUBTCAT" IF SUBTCAT = 3; THEN"	141.	END SUB-CAT
IF SUB-CAT = 3; IF SUB-CAT = 3; ITHEN	142	The state of the s
- VECH-	143.	JB CAT = 3;
	144.	ZETE

PAGE 7	
MODULE: MBLT. ASM	
14:39	
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JOVIAL	-

	The state of the s
145.	NEGIN "SUB'CAT NE 3"
147.	"THEN"
147.	::
147.	IF LABEL = 1; "THEN"
144.	GIN "LABEL EG 1"
148.	101
150.	IF HOSTILE # ON;
150.	F.W (S
152	TO CANA TOTAL TOTA
153,	"THEN"
153.	FRITEM(ADDR'MSG); "STORE ADDR'MSG"
155.	
157.	END
158.	ELSE
124.	GOTO BLK'16; END "SUB'CAT NE 3"
151.	B CAT
5	ראו ביי
163.	3573
163.	86GIN "CAT NE I" IF (CAT H "u") ON (CAT H "A")
165.	
105	ETHER COLOR IN A COLOR STREET
165.	1. MAY STORE ANDREWS
165.	
100	COLO BLN 15;
166.	эста
100.	BEGIN "CAT NE V. A. OR M"
169.	1
164.	
	"MHEN CATEGORY IS C, THE CODE "
104.	2.
104.	3. MAY RESET SLOT POINTER
164.	BEGIN "CAT EO C"
168. CABEL = 5));	If (SUR"CAT = 2) AND ((LABEL = 2) OR (LABEL = 3) OH (LABEL =4) OF
104.	THENT SCHOOL SON TRACT SO 2 AND TRACT SO 2.4 A DD LE
104.	ON ADDR WSG = MANT;
100	

END END END "CAT NE P" END "CAT NE P" END "ACCEPT'HASH'STORE"

JOVIAL V. " PA2876 9/14/76 14:39 MODULE: MBLT. ASM PAGE 9

	OCT ORNERS	
CHARACTERS	7616	
LINES	343	
STABOLS AND	901	24 90
AND	1 1 2 2	0.51
BEGIN	32	16,33
PIT	13	6,63
ELSE	56	13,27
END	32	16,33
6105	10	17 86
1154	32	16.33
	٠	3.6
DHOC	1	N.51
RETURN	-	4.51
TARLE	- :	0.51
COMMENTS	192	23,41
DIRECTIVES	·	0 . ac
1004-003	1	71. W
CONSTANTS	2 30	9.76
INTEGER	89	85.v
CHARACTER	1.2	15,0
SIGNS	.331	40.37
•	-	0,30
<	80	#C.02
	14	4.23
•	1	2,11
	130	39.27
	4	1,21
	20 0	11.48
	30	11,40
	15	4.53
ARBREVIATIONS/DEFINE FORMAL PARAMETERS	32	3.90
J.	2	6.25
ח	30	93,75
NAMES	180	21.95
		9,0
1 4551		
0000	14	7.78
TARLE	1	4.56
TAHLE-ITEM	14	7.78
SIMPLE-ITEM	124	68.89
DECLARATIONS	34	
SIMPLE-ITEM	15	91.18
	•	

1 1 189 1681 27 27 15 15 16 16 1	STATISTIC NAME	MODULE: MRLT. ASM PAGE 10 OCCURRENCES	10 PERCENTAGE
189 13 139 199 199 199 199 199 199 199 199		1	2,94
13.7.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	PROC	180	2,94
	SIGAMENT	27	14.29
		35	18,52 8,47
		i-	0.53

JOVIAL	V.062476	9/14/16	9/14/76 14:39 MODULE:MALT.ASA	JULE: MAL	F. ASA	PAGE 11
STAT	LOC4 R	CODE R	CODE. R	LABEL	MNEA	OPERAMOS
	PIA4 H	19028 L			ADDR MSG	486
		3027 L			FILE	FILTER'BIT
		J weed			MORD-1	
		0020 L			SAM AAA	AA
	MIA8 H	9029 L			WEATHER	6.5
		3918 L			NON	NON-ADDR M
	01AA H	0022 L			SENS	SENSOR ASG
	REGION 1 .					
7.	H Guna			ACCEPT		
. REGION	10% 2 .					
36.	H Zapp	1080	H OSOG		7	MAIN
	REGION 3 .			BUK'8		
	-	8000	0914 L		1	4,SRN
	H GUSS	FUNN	8020 L		U	Ø, DF.ST
		7452	60112 H		25	NE, H-12
39.	T V CON	8360	H PAIN		E I	15, (ADDR'MSG)
40.		5050			SH	14,000016
42.	0410 H	7250			ר	H.1C
43.		8010		н.12	ľ	1, WORD+14
	- 1	9014			ST	1, ASB
	E 0	0 2 2 2 2	2007 F		۽ رُ	NO. T. GAY
45.		SUES			SB	14. WORD 116
47.	COLC H	8350		H.1C	LIM	15, (FILTER*BIT)
		7220	* 2000		JS	2. WKITEW
49.	11 020 H			BLK 10		
. REGI	REGION 4 *	500.40	1 1121			E TO CO
	2322 11	2000	4000		3 0	V - END 10101
		7050	WAZC H		35	NE, H, 2C
50.	0026 H	8000	3920 L		7	Ø, TOP POINTE
	.1028 H	9000	ONZH L		ST	W.SI.OT POINT
51.	DOZA H	7050	A432 H	200	, .	H • 32
.,		41.50	. 1	10.6L	E	4 CITTEDOTUS
	0436 H	3506	OUZH L		LS	TALCA, LOTS, 5
53.	1 7 F WO	7080		н.32	3	01) [
-1	0934 H			BLK 13		
. REGI	REGION S .					
	1 42 64	0100	AC10 C		7	1,4000E9S
55.		F010	9024 L			
		10501	MO42 H		30	1.42
56.	H 26 M	8350	31A4 H		LIM	15, (ADDR'MSG)
		1220			JS	2, 4K1 FEW
57.		1050	- 1		2	н, 45
	11 7400	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1 4000	H.42	J 5	1, VOCTO 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
		20.00			10	10210101

JOVIAL	V.V. 52476	9/14/76 14:39		MODULE: WELT. ASM	F.ASM	PAGF. 12
SIAL	LOCK A	COUF R		LANFL	MARM	ОРЕНАЛОЯ
3	10 24 20	11111				
	10000 10000	7650	0045 11		- د	NE . I AF
69	- 1	8360	MIA4 H		1.1 %	15. (ADDR MSG)
	Fode H	7224	* 0000		35	2. ATTEM
62.	1	1050	OIAV H	H.4E	2	100
64.				MAIN		
. REGI	REGION 6 *					
	H MSGA	8350	WIA6 H		LIM	15, (wORD-1)
. 59	# 7500 # 4500	8010	2000		25	1. ADRD
	1.056 H	9010	0010		ST	1.3.1
.99		F310	1000		CIM	17/1
	H WASA	7020	H ASA		30	E0, H, 5E
67.		5010	D SOOS		SB	1, WORD 16
	H 3SC	5303		H.5E	SA	0, NORD 16
.69	- 1	8010	JU11 L		17	ויכאד
	2005 H	7.550	22.23		5 5	
13.	0.055	8420	0012 1.		3 -	7.511 CAT
	H 8417.3	F320	1600		CIM	2,11
	MUSA H	1.45.4	9078 H		30	NE. H. 78
71.	١ ١	2605	n eess		SB	9, WORD*16
12.	COSE H	85.50	0013 L		٦,	
	H 97 90	2000	SAIR L		ا ا	0, LOR
73.		2000	1 0000		מני	15,8080*16
75.	1	7060	M 380 H	H.76	2	H-82
16.		F324	2000	н.78	CIM	2,73
	H ALCON	7050	H 0800		36	NE, H. 80
77.	- 2	SUAM	9 0000		SB	10, NORD*16
		1050	B082 H		7	7.87
.61	H VRSA	2080		н.83	SB	11, 40,40
	1 4 4 4 5 5	5555	See L	78.H	2 5	9, WOKD +1
68	1	Take.	DANG H		-	
85.		F313	5420	н. 88	VI S	· L.·II
	H ABEN	1050	H BROA		36	NE, H, EE
. 98		8000			ı	W, SUB "CAT
	1	F 355	16,00		CIM	0.11
		7.050	SCAS H		30	NE, H. A6
.18	H Z600	2108	7 6000		7 .	1, MORD+8
***	1 4500	2106	d CING		I S	1,10
	H 8600	7050	H 3600		300	36.4.36
.68		2890			SB	9,4080*16
.06	H 0600	7050	VOAW H		י	HAN
.16	999E H	2000	acen L	H.9E	SB	12,WORD'16
92.	HOAD H			H. AØ		
. REGI	REGION 7 .			T * RD4		
1	H SAB H	8000	J 1000		1	U, WORD+3
	HOA2 H	4926	1014 L		ST	U, SKN

JOVIAL	V. 062476	9/14/16	/76 14:39	MODULE: MBLT. ASM	F. ASM	PAGE 13
STAT	LOCA H	CODE R	CODE R	LANFL	NNEW	OPERANDS
93.	H 4400	7010	H FOOR		2	bLK*8
95.	JUNE H			H. A6		
	REGION 8 .					
.06		8010	0012 L		-1	1,SUB CAT
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7.550	2000		<u> </u>	SC. II. DO
07		2020			3	2 .woRh+9
		9320			ST	2,10
. 86	H OHON	F320	3540		CIM	2,70
	WORZ H	7050	H 8800		20	NE, H. B8
. 75		5084	S word		SP	11, WORD'16
100	WARE H	JUFU	SCAO H		7	I,WR04
103.		8343	4016 L	H. B.R.	-7	0,FIRST LEVE
	- 1	F335			CIX	66.11
	H DHOU	7750			٦ ,	30 1 2 2 2
104.		0000	0017 L		1	or Second - Lev
	H	5.00			E .	
		1020	- 1		30	NE.H.CA
105.		36.6	01A7 H		LI.	15. (SAM AAA)
		1565	* 6000		20.	ZZOUIPOI
.00.		0.101	H NANA			2020
. 60.		2367	SOCE H		2	11 C C C C C C C C C C C C C C C C C C
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2007	2000) G	2 -	27 LU I
114		31.5			2 2	77.61
	CAD2 H	7050	BODA H		200	40.11
115.		3008			1	Ø. ≥ORD+8
	H 9000	8696	0015 L		ST	9,10
110.		7080	ENDE H		2	H.0E
117.		8000	SOUNA L	H, DA	L	Ø, WORD+9
	M DON	90,06	0015 L		ST	6,10
118.		8000	0015 L	H.DE	7	21.0
	E COLOR	5.05.4			Σ.	
011		3501	SOER H		200	NET HER
120	# 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2727	S S S S S S S S S S S S S S S S S S S		£ -	11, 40107 16
121	1	570.0		H.E8	SH	13.000016
122.		7080	BUAN H		י	TARD4
126.	H DHOS	7080	OIAV H		2	H.1Av
	SUBER H			H. EE		
. REGI	. REGIO! 9 .	6.44.4				Exc
177	1000	21.00	4034		2 5	111111111111111111111111111111111111111
	doro u	2527	4154			24. 1.
128	1	R.3.2.1	3612		3	2.SUB CAT
		F320			×10	2./1
		7350	1		35	NE. H. 124
129.	OUFA H	8430	VUIA L		7	3, LABEL
		F330			CIM	3,11
		7020	4104 H		30	EO, H. 184
		F 334			CIM	35.72
	М102 н	1050	SINA H		20	NE, H. 10A

	130.		838.5	MIAB H	H.104	LIM	15, (VEATHER)
10 10 10 10 10 10 10 10				* 66.46		SC.	2, WR TEX
010 0	31.			3003	H-104	2	3.73
10 10 10 10 10 10 10 10						30	WE, H, 11E
11	133.		8830			1	3, now "ADDR"M
10.12 H 7050 0114 H 010 0115 H 7220 20000 H 1.114 J J J J J J J J J		ı	F535			J	3, WANI
		- 1	7050	011A H		30	NE, H. 11A
110	34.		8358	T STO		E.I.M	15. (NON'ADDR'M)
	-		0771			30	Z, MKJ IEM
11	.05						n 110
	30.				A.I.A		20 TM
120 H 7220 00000 120	30.				H	2	S. CAFFER WAD
122 702						18	2 - white
124 1250 1003 1124 118 1126 1127 1128 11	42.		7050		н.122	2 7	н.152
126	43.			5003	H.124	CIM	2,13
125 1 1320 0000 1 128 014 128 014 128 014 128 018 128						30	E0, NLK '13
124 1250 0150 H 0150	10.			1000	H.128	CIM	2.17
						200	RE, H. 150
126 1 127	11.		8320	1000		LIM	2,11
13.5			F11213	ONIA L		U	2, LABEL
132 H 8030 2008 L S1			7653			35	48,H.14C
v134 H 9v35 vv13 S1 v136 H F33 vv13 H C1M v136 H 752 vv13 H L1M v136 H 722 vv04 L L1M v136 H 722 vv04 L L1M v136 H 9v10 vv14 L L1M v142 H 9v10 vv14 L JS v144 H 7v50 vv04 H JS v145 H 7v50 vv04 H JS v146 H 7v50 vv04 H JS JS v146 H 7v50 vv16 H H JS JS v146 H 7v50 vv16 H H JS JS <td>. 8</td> <td></td> <td>803.</td> <td>7 8000</td> <td></td> <td>7</td> <td>3, NORU+7</td>	. 8		803.	7 8000		7	3, NORU+7
135 H 133 130 131			9698	95.1B L		S1	3, HOSTILE
138 H 1950 1918 H JC 136 H 1926 1904 H 136 L 136 H 7226 1904 L H 136 L 144 H 7226 1904 L H 136 L 144 H 7050 1014 H 144 JC 145 H 7050 1014 H 146 JC 146 H 8350 1015 H 146 JC 147 H 7050 1015 H 146 JC 146 H 7050 1015 H 146 JC 146 H 7050 1015 H 146 JC 147 H 7050 1010 H 152 JC 148 H 7050 1010 H 154 CIM 149 H 7050 1010 H 154 CIM 156 H 7050 1010 H 154 CIM 157 H 7050 1010 H 156 JC 158 H 7050 1010 H 160 JC 159 H 7050 1010 H 160 JC 150 H 8350 1003 H 160 JC 150 H 8350 1003 LIM 150 H 8350 1003 LIM 150 H 8000	. 6					CIM	3,11
134 14 135 14 15 15 15 15 15 15 1			1050			25	N
135			631.0			LIM	15, (SAM AAA)
142 14 14 15 15 15 15 15 15			2770		900	2 -	1 HORD+1
142 FMIN WELL C C C C C C C C C	:		5 5 5		11.135	TY	1.522 1.522
### ## ### ### ### ### ### ### ### ###	52.		2 2				1.0551767
1146 1146 1146 1148			1050	DI4A H		30	NF. H. 14A
1148 1223 Jose 10 10 10 10 10 10 10 1	53.		83F0	01A4 H		LIM	15, (ADDR*MSG)
144		1	7223			JS	2, MITEM
14C 175Fe 1034 114C J J J J J J J J J	. 55		70F0		H.14A	J	H•14E
114E	.99		7.3E.O		H.14C	2	BLK*13
152 1787 1	. 86	- 1	7080		H.14E	5	н.152
152 1 70F0 51A0 1 152 3 153 4 154 510 155 4 154 156 4 154 156 4 15	.60		7.08.0		H.154	7	86.8 14
	63.		70.60	CIAM H	н.152	2	H.1AS
	64.		F313	5620	H.154	CIM	
10	1		10.20	3160 H		200	EQ.H.16W
15A 102 0160 H 05 0155 H 102 0155 H 1035 H			1 310	4170		5	
# 150 H 7510 #152 H 7510 #152 H 7510 #152 H 755		- 1	1050	H HOLE		200	EQ.H.15W
MISS			2010	0204		2.5	11.0
10 1 10 10 10 10 10 10	1	- 1	1030	H 7010	100	3	102
#165 H 705/4 #192 H 35 #166 H 832/4 #00/2 L LIM #168 H F020 3012 L C	62.			4324	1,150	2 1	פרעון כ
. 1166 H 832v 0002 LIM					2011		
A168 H FAZA 3M12 L C	.89		8320	8000		LIM	2, 12
			6263	3012 L		2	Z.SUB CAT

.

		COUR. R	CODE R	LABEL	MEN	OPERANDS
-	1	8030	UNIA L		1	3, LABEL
-	- 1	F330			C1 M	3,1/2
	0170 11	7626	017E H		25	E0, 11, 17E
3		7633	0175 0			11.13
	0176 H	F 3 30			Z .	
-	0178 H	7020	017E H		25	EQ.H.17E
		F330			CIM	3,15
	н 3/10	7050			20	NE,H.18E
169.		8010	- 1	H.17E	7	1, NON ADDR'M
	H 0810	5016			္ '	I, MAN!
170.		8350	H POICE		J.1M	NE FILE A
	V186 H	7220				
171.		7010			2	H. 18C
	PIBA H	7050		H.18A	2	BLK 10
	M18C H	7050		H.18C	5	₩.19Ф
-		7.) F.M	-	H.18E	1	BLK*13
	H 6610	76.F.0		W.190	3	H.1A0
178.	- 1	F319	- 1	H.192	CIM	1,78
	.194 H	7050			36	NE, H.1A0
179.		8010	9022 L		2	1,SEMSOR*MSG
S		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			: ن	10 F P N T
	1 200	1050	HSAL		2	NE , H , 1 A Ø
		7222			ETT	10. (GENOOR AGE)
185		1220	3000	24. 17	00	7,115,1
0193	18*			n.IAO		
187.	PIAS H			H.1A0		
3	OLAD H			OUT		
EG10	11*					
188.	VIAN H	8530	9930 L	H.1A0	2.2	3, 4, 30
•	01A2 H	7082	eane		ט	10,2
-	H COON	98.36	9030 L		STM	3,1,30
REGION	12*					
189.					END	

JOVIAL V. WEZETE 9/14/76 14:39 MODILE: MBLT. ASM PAGE 16
NAME CLAS SCOPE LOC TY FB SIZ PERH/OSIZ DEF - SET(*)/USED - -

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ACCEP L'HAS	PHOC	*GLOBAL.	HOUNG			7.	1000000	7	20	24	6.4	163				-	
			36136	> =	00	9	KESERV	15:	54*	220	40	100					
		GLOBAL	0000	12	0	32	S	2:									
16		ACCEPT HAS	MUZWE					:64	110	136	159	172					
6LK 13	LAHL	ACCEPT HAS	4034H					54:	144	156	165	175					
BLK . B	LAHL	ACCEPT HAS	NO04H					38:	82	93							
	11EM	ACCEPT HAS	00111	U	S	2	RESERV	7:	69	85	127	164	164	164	167	178	
	PROC	*GLOBAL.*	0000	ĹŁ	0	32	G	2:									
DATA		ACCEPT HAS	JI WOOD	n	2	10	RESERV	**									
			OVZAL	n	0	16	RESERV	22:	38								
DESTATEL	ITFE		90211	n	5	16	RESERV	23:	152								
	ITEM	ACCEPT HAS	MAZCE	n	0	16	RESERV	34:	49								
FILTER BIT	ITER		3427L	D	0	16	RESERV	29:	41								
FIRST LEVE	ITEM	ACCEPT "HAS	drible	n	0	16	PESERV	12:	103								
	ITEM	ACCEPT HAS	9013L	=	s	16	RESERV	5	7.2								
HUSTILE	LTEM		MAINE	=	0	16	RESERV	17:	148*	149							
	ITE"	ACCEPT HAS	2015L	n	0	16	RESERV	==	*18	88	*16	86	115*	117*	118		
JIIDS	SLOC	*GLOBAL*	*0000			s	EXTRNL	5:									
LAREL	TEM	ACCEPT HAS	SOLAL	9	0	16	RESERV	16:	129	129	132	147	168	168	168	168	
	ITEN		331EL	D	9	16	RESERV	20:	72								
MAIN	LABL	ACCEPT HAS	3050H					: 69	36								
NOIS	ITEM		00100	n	2	16	RESERV	19:	28 *	5.6							
ı	111	ACCEPT HAS	WWICL	n	s	10	RESERV	18:	43*	44							
ADDR M	1TEM	ACCEPT HAS	00186	п	0	16	RESERV	14:	133	134	169	170	The State of the S				
	NI 40	*GLOHAL*						2:	149								
	LABL	ACCEPT HAS	MIADH					187:	53	62							
ourrut	PHOC	*GLORAL *	*0000				0	2:	39	105							
	ITEM	ACCEPT HAS	9025L	n	0	16	RESERV	27:	59								
	LIEM	ITEM ACCEPT HAS	9023L	n	0	16	RESERV	25:	44								
E S	OFIN	*GLOBAL.						2:									
	PROC		*0000				0	5:	40								
	ITEM		100 Zec	n	0	16	RESERV	28:	105	150							
AD-LEV	LLEN		3017L	- :	s	91	RESERV	13:	104								
- 1	ITEM		3524C	-	2	16	RESERV	56:	55						-		
SOF 486	ITEM	ACCEPTHAS	30.226	D (20	9 5	RESERV	: 67	1/9	186							
S. I.S.	J. L.	* GLOBAL*	00000	-	9	35	OF SEBU		87	F (A E	6.3	403					
	2000	*C108A1	4444	i ia	5	32	, L. C. S.				*						
	MEL		351.41.		2	4	DESCEDA	10:	42	*	426	151	152				
****	130		00101	=			NOESEDV		0.	76	2	96	114	128	143	446	168
		2000	77.10				Neger A		2	2							
I WRD4			воден					92:	100	106	122						
	PROC	*TV8075*	0000	-	0	3.5	0	5:									
TOP POINTE	ITEM		SOZDE	n	s	16	RESERV	35:	20								
MANT			MAIPE	0	a	16	RESERV	21:	133	169	179						
			9029L	=	0	16	KESERV	31:	130								
MEATHER WA	TTEM	ACCEPTHAS	30226	0	0	91	RESERV	32:	139								
MORD	TITM DATA	DATA	ONOIL	U	0	2	RESERV	2:	43	54	28	64	65	81	8.7	85	97
1,000	TEM	TTEM ACCEPT HAS	.10000	=	2	-	VERENV	3:	115	117	148	151	71*	73*	77*	19*	68
	1011	2000	7					,									

JOVIAL V.UG2876 9/14/76 14:39 MODULE:MBLT.ASM PAGE 17 NAME CLAS SCOPE LOC TY PH SIZ PERMYDSIZ DEF SET(*)/USED		
WRITEW PROC *GLOHAL* GROW 6 2: 47 56 60 130 134 139 150	150 153	170
XI ITEM ACCEPT*HAS GUIVL U 0 16 RESERV 6: 65* 66		
EADR OUTPUT		
FILES REFERENCED: JIIDS.CMP 9/14/76 9:36 CMP.JTIDS		
343 LINES 91 MESSAGES: 91 INFORMATION CPH TIME 9.319 SEC		
		1
61		
		1

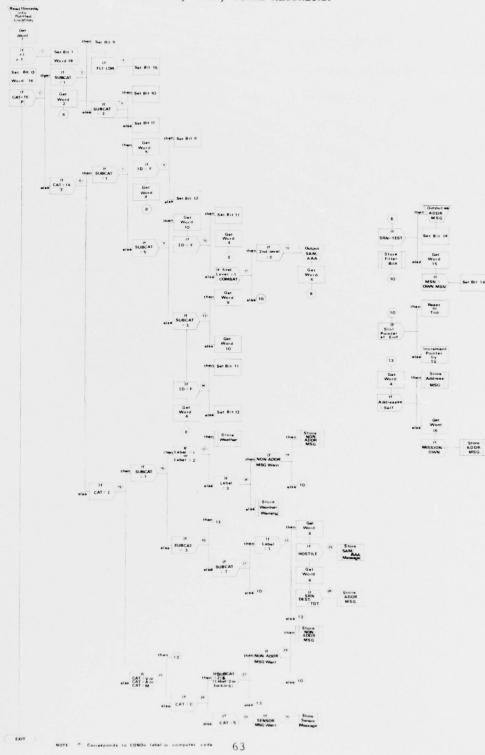
APPENDIX C

ALGORITHM #2, ACCEPT/HASH/STORE ("STRUCTURED" FLOW CHART)

ALGORITHM #2 (ACCEPT/HASH/STORE) DESCRIPTION

This section documents the results of restructuring the logic structure contained in Appendix "B". In lieu of the logic conventions of Appendix "B" (FORTRAN-type IF statements, GO TO's, etc), a set of structured programming control constructs (IF THEN ELSE, FOR WHILE, etc) were used. The algorithm (ACCEPT/HASH/STORE) was re-charted and in turn re-coded in JOVIAL-73/I. The resultant flow chart is contained on the following page.

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JOVIAL-73/I IMPLEMENTATION

The following pages are the resultant compiler output for the JOVIAL-73/I compilation of Algorithm #2, ACCEPT/HASH/STORE. This procedure (named MBLT 1) is coded according to structured programming guidelines.

1000	E TATE			200	**************		-
2 5 7	WMA	вниниванина	В	LLL	TTTTTTTTTTT	111	
44.4	822	нынынинини	1	LLL	TITITITITITI	111	
マグララブデ	*****	HHH	888	ttt	TTT	111111	
: 77777	> >	584	888	LLL	171	111111	
25.000	BANKE F	явя	RABB	LLL	III	111111	
5.7.7 STATE	WAN P	988	5.08	LLL	LIT	111	
5 . 5 × . 4	F 45" #	122	FEE	U.I.	1.7.1	111	
Max MMM	W KNN	ьвн	HAR	LLL	TIJ	111	
5 5 5	2.25	наченияния	2	PPP	111	111	
22.5	200	HEARIGHMERE	n	LLL	17.1	111	
4.4.4	N 17.00	ВВИНВИВИВИ	13	LIL	117	111	
200	1	HHH	888	LLL	TIT	111	
how.	F 14 15	HEST	Бин	LUL	T11	111	
	2.35	нон	888	LCL	TTT	111	
355	MAGE	548	888	LLL	TIL	111	
A N. A	* 1.4	dHs	968	Li.I.	TTT	111	
2 2	461.1	243	HHH		TII	111	
2 2	* > 11	В ВНИВНИВНИВ		LILL GEREBERGEREEFE	111	111111111	
3.73	MINN.	начиначиния	T	LULLILLILLILLILLILLILLILLILLILLILLILLILL	TIT	11111111	
20.22	N N 1	наниванини	7	T. L.	TIT	111111111	
		3730000000000	3 7 3 0	THEFT			
1000		888888888888888888888888888888888888888	SSSS	TITITITITITI			
1,1,1		\$55555555555	5555	TITITITITI			
LLL		555		LTL			
Lf.L		555		111			
Lil		555		TTT			
LLL		555		TII			
Let		888		ITI			
LLL		\$55		TTT			
Lin		555555555	S	111			
517		8888888888	S	TTT			
Lit		\$55555555	S	LTT			
LEL			555	TTT			
LFL			555	17.1			
LLL			588	1.1.1			
TIT			555	ITT			
LILL			555	7.1.1			
Lit			555	111			
LILLILLIL	LULLILLILLILLILL	55555555555	S	TTT			
LELLEL GITTLE LIL	T.L.L.L.L.	\$\$\$\$\$\$\$\$\$\$\$\$\$	S	171			
111111111111	1.1.1.1.1.1.1.	282555555555	v.	TTT			

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LPTSPL Version 6(347) Punning on LPTM11
STAMI User HURLANDER (32x2,1376) Job MBLT1 Seq. 543 Date 14-Sep-76 12:58:16 Monitor AFAL 6v2,15 SYSTEM *STAMI*
PETHESE CREATERS 11-SEP-76 12:59:08
FILE DSALIAMBLILEST (32x2,1376) Created: 14-Sep-76 12:57:00 Printed: 14-Sep-76 12:58:30
FILE SALIAMBLILEST (32x2,132x2,1376) Created: 14-Sep-76 12:57:00 Printed: 14-Sep-76 12:58:30
FILE SALIAMBLILEST (32x2,132x2,132x2) COPIES: 1 SPACING: 1 LIMIT: 112 FURMS: NORMAL
FILE AFILE GELETED AFILEST (32x2,1376)

						1000
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1.	CONPOOL (JTIOS. CAP.);	100 Cap 1	
3.	*MAIN PROGRAM	"MAIN PROGRAM BELOW NESTED PROCS"	* S
3.	91.GIM	"ACCEPT HASH STORE"	STORE"
3.3	"DECLA	"DECLARATION SECTION"	
3.	"EXTE	"EXTERNAL DECLAHATIONS"	- 9
4.	ITEM	WORD 16 U;	
+ +	"LOCAL	"LOCAL DECLARATIONS"	
4.	TABLE	DATA[1:15] ITEM WORD	1; 5 2 (0,0);
6.	ITEM	XI U;	
æ	ITEM	SUB CAT U;	
.6	ITEM	FLT U;	
	E 22	SRN U.	
12.	NSII	STOL	U 3
3.	K911	SECOND LEVEL	, n;
14.	1164	NON ADDR MSG	ίυ;
	200	5	U ;
17.	1753	HOSTILE US	
.8.	ITEM	MSN U;	
19.	17EM	100	
	ITEM	LOR	
21.	ILEN	AANT U;	
7.	175%	DEST U;	
23.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DESTIGI	
	N311	DEN NOON TO	0.5
26.	M-11	SELF US	
27.	ITEM	0 MM U.	
24.5	1,771	SAM	
	1753	FILTER 811S	
3.1.	ITEM	ADDR ASG	Ü;
31.	1750	MEATHER U;	
	ITEM	WEATHER "AARNING U;	10.93
33.	W 411	STOT POOTNIED	
34.	ILEM	END POINTER	
15.	ITEM	FOP POINTER	0;

976 9/14/76 12:57 MODULE:MBLT1.JTS PAGE 2 PROC BLK'10; "THIS PHOCEDURE RESETS SLOT POINTER " "FO EITHER 15 MORE OR TO TOP "	BEGIN "ALK'10" IF SLOT'POINTER = END'POINTER; "THEN" SLOT'POINTER=TOP'POINTER ELSE SLOT'POINTER=SLOT'POINTE END "BLK'10"		
37. 37. 38. 38. 38.	38 39 39 39 39 39 39 39 39 39 39 39 39 39		

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PROCEDURE IS COMMON RETWEEN CATEGORY P. AND T. "THIS PROCEDURE IS COMMON RETWEEN CATEGORY P. AND T. "IT CHECKS IF SAN EQ DEST, IF SO OUTPUIS ADDR'MSG." "IT STORES FILTERFRITS AND PERFORNS BLK'IU REGIN "ALK'E" BEGIN "SAN EQ DEST" "SUTPUI ADDR'MSG. SIT STORES FILTERFRITS AND PERFORNS BLK'IU BEGIN "SAN EQ DEST" "SET BIT 14" ENDE FILTERFRITS AND PERFORNS BLK'IU BEGIN "SAN EQ DEST" BEGIN "SAN EQ DEST" BEGIN "SAN EQ DEST" BERNOND 15 19 "" SET BIT 14" BERNOND 15 19 "" SET BIT 14" BERNOND 15 19 "" SET BITS" BERNOND 16 15" BERNOND 16 15" SET BITS" ARTHRY BERNOND 16 15" BENOND 15 1 "SET BITS" BERNOND 16 15" BENOND 16	D SETS BIT 14 " SETS BIT 14" " " " MSG"
FULLS IT S I	
TILE STILE S	
FUECT;	SETS BIT 14" " "MSG"
FUECT:	E E DOSE.
F. F. J. F.	E DSA.
BEGIN	*BSG**
The color	*MSG**
IF SPN EQ DEST BEGIL "SRN EQ DEST" BEGIL "SRN EQ DEST" OUTPUT(ADDR "MSG); SIT(WORD 15,19)=1; END ELSE REGIN "SRN NE DEST" FRA = WORD 115,19)=1; FRA = WORD 115,19,19 FRA = WORD 115,19 FRA = WOR	*MSG**
######################################	*FSG**
BEGIN	*BOG*
SITE WORD '16,14)=1; "SET HITE ELSE ELSE ELSE ELSE BEGIN "SRN NE DEST" BENNENDED 15, "GET WORD 15" I KNN NE ON' MNS. RATTEW(FILTER" HITS); "SIORE FILTER BITER BI	*BSG*
ELSE ELSE ELSE ELSE BEGIN "SEN EG DEST" BEST "SEN NE DEST" BEND "SEN NE DEST" BIT (WORD '16,14)=1; END "SEN NE DEST" BETURN END "SEN NE DEST" BETURN BENDER 'BLES'; END "BLK'8" 'END "BLK'8"	
EUSE BEGIN "SRN NE DEST" HENNEWORD [15]; "GET WORD 15" IF MSN = Okn'msn; BIT (WORD '16,14)=1; BIT (WORD '16,14)=1; BERFORM BIN'IE; END BERFORM BIN'IE; BERFORM BIN'IE; END BERFORM BIN'IE; BERFORM BIN'IE;	
HEGIN "SRN NE DEST" HENNENDOI15); "GEI WORD 15" HENNENDOID 15; "TREW" BAND "SRN NE DEST" ARITEW(FILTER*HITS); "SIORE FILIER BI END "RIN"; END "BLKF8" **EDECT;	
HEGIN "SRN NE DEST" HENNEMORD 151; TREM = OWN'NSN; "TREM" "TREM" "TREM" "SRN NE DEST" PERFORM BIN'IL; END "BLK'8" END "BLK'8"	
HENEWROTISI; "GET WORD IS" IF MSN = ONN'MSN; "THEN END "SRN NE DEST" RETURN; "SIN NE BEST" RETURN; "BLK'8" END "BLK'8" END "BLK'8"	
THEW THEW END TO THER BI BIT (WORD TELIA) = 1; END ARITEM (FILTER BIRS); PERFORM BIR TO; END "BLK 8" SEND "BLK 8"	
#IT(#0RD*16,14)=1; BIT(#0RD*16,14)=1; END #RITEW(FILTER*HITS); "STORE FILTER BI PERFORM HIN* 12; END #BLK*8" !EJECT;	
HITCHORD'16,14)=1; END "SRN NE DEST" PERFORM BLK'18; RETURN; END "BLK'8" FJECT;	
END "SRN NE DEST" ARITEW(FILTER'BITS); "STORE FILTER BI PERFORM BLA'10; END "BLK'8" FJECT;	E
#ENTEW(FILTER BITS); PERFORM BIN 12; RETURN; END "BLK"8"	HII 14"
PERFORA BIN'10; RETURNY BIN'8; END "BLK'8"	
PERFORM RETURN; END	
FUECT:	
FJECT;	
JEJECT;	

PROC BLK'13; PROC	.06	
THIS IF G		BLK 13;
THIS IF G	.10	ι.
1EJECT;	61.	"THIS PROCEDURE IS COMMON DEIWERN CATEGORIES V. AS M. I. AND C. "THIS PROCEDURE IS COMMON DEIWERN CATEGORIES V. AND M. M. AND C.
1EJECT;	51.	" IF NOT SELF, GETS WORD 15 THEN CHECKS MISSION, IF OWN IT STORES ADDR"MSG"
BEGIN "BLK'13" "GET WOPD 4" IF ADDRESSE = SELF" THEN WHITEN (ADDR'MSG); ELSE HITEN (ADDR'MSG); BEGIN "ADDRESSE NE SELF" MISSIGN = ONN; THEN "ARITEN (ADDR'MSG); END "ADDRESSE NE SELF" WRITEN ONN; END "ADDRESSE NE SELF" WRITEN (ADDR'MSG); END "ADDRESSE NE SELF" RETURN; END "ADDRESSE NE SELF" "BLK'13" "BLK'13"	.10	
ADDRESSE=WORD(4); IF ADDRESSE = SELF; IF ADDRESSE = SELF; WHITEM (ADDRESSE NE SELF" BEGIN "ADDRESSE NE SELF" BEGIN "ADDRESSE NE SELF" IF MISSION = ONN; END "ADDRESSE NE SELF" END "BLK'13" 16JECT;	61.	- 1
ADDRESSE=ACRD(4); IF ADDRESSE = SELF; "THEN "MITEN (ADDR MSG); ELSE BEGIN "ADDRESSE NE SELF" BEGIN "ADDRESSE NE SELF" H NSSION = ONN; I THEN "ADDRESSE NE SELF" BETURN; END "ADDRESSE NE SELF" WRITEM (ADDR MSG); END "ADDRESSE NE SELF" BETURN; END "ADDRESSE NE SELF" WRITEM (ADDR MSG); END "ADDRESSE NE SELF" BETURN; END "ADDRESSE NE SELF" WRITEM (ADDR MSG);	61.	"BLK 13"
IF ADDRESSE BELF: WHITEW (ADDR'MSG); "STORE A ELSE WHITEW (ADDR'MSG); "GET WOR IF MISSION=#ORO[15]; "GET WOR IF MISSION=#ORO[15]; END "ADDRESSE NE SELF" WHITEM (ADDR'MSG); END "ADDRESSE NE SELF" END "ADDRESSE NE SELF" RETURN; END "ADDRESSE NE SELF" *** *** *** *** *** *** ***	61.	DRESSE=#ORD[4]; "GET WOPD
ELSE WHITEW (ADDR'M3G); ELSE BEGIN "ADDRESSE NE SELF" BEGIN "ADDRESSE NE SELF" IF BISSION ON! IT BISSION ON! END "ADDRESSE NE SELF"	52.	
ELSE ELSE BEGIN "ADDRESSE NE SELF" MISSION = ONN; THEN "THEN AND "MGG); END "ADDRESSE NE SELF" END "ADDRESSE NE SELF" "HEN" "HEN" "ELK'13" !EJECT;	63.	
EUSE BEEF " BESTON=AORDESSE NE SELF" MISSION=AORDESSE NE SELF" MISSION=AORDESSE NE SELF" THEN "AORESSE NE SELF" END "AORESSE NE SELF" END "AORESSE NE SELF" END "AORESSE NE SELF"	63.	WRITER (ADDR MSG);
HEGIN "ADDRESSE NE SELF" IF NISSION = 0NN; IF NISSION = 0NN; IHEN" RETURN; END "ADDRESSE NE SELF" RETURN; END "ADDRESSE NE SE	54.	
# INTESTOR = ONN; IF NISSTON = ONN; END	64.	NE SEL
IF MISSION = OWN; "IHEN" "ADDRESSE NE SELF" END "BLK'13" !EJECT;	65.	
END "ADORESSE NE SELF" END "ADORESSE NE SELF" END "BLK'13" 1EJECT;	.00	
END "ADDRESSE NE SELF" END "ADDRESSE NE SELF" END "ADDRESSE NE SELF"	67.	
FIND RETURN; END "BLK'13"	67.	WRITEW (ADDR "MSG);
EJECT;	6 H .	F.R.D
:EJECT;	. 60	
	70.	- 1
		!EJECT;

12. ENTRY TO MAIN PROGRAM	
ACCEPT'HASH'STORE FRANT 1	
READR (WORD [W]); READR	TEMBORAL SECTIONS
S	ATION
3, LOCA	
S	
S	
READR(WORD(W)); "REE XI <> 1; XI << 1; XI < 1; XI	TEGORY
COND1: IF X1 <> 1; COND1: IF X1 <> 1; FEG	
COND1: IF X1 < > 1;	
######################################	
BIT(40RD 11 P P) COND2: IF CAT = 'P'; THEN" A+EN A+EN A+EN COND3: IF SUB*CAT END END END END END END END EN	•
COND2: IF CATEGO "AHEN CATEGO	
#### CATEGO	
# WHEN CATEGO # 1. 2. 3. 3. 4. 4. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	
## ## CATEGO	
1	CODE
COND4:	B CAT, FLT, SKN, MSN, SLOT POINTER"
COND4:	
HEGIN "CAT COND3: IF SUB-CAT HEGIN "CAT THEN" HEGIN "CAT HEGIN "CAT ELSE HEGIN "CAT END SHN=WORD2]; PERFORM BIK" END "CAT	15 OF WORD 16"
F SUB-CAT = 1; THEN	
COND 3: IF SUB CAT = 1; ### FILE N	
COMD4: THEN BEGIN "SUB'CAT EQ 1" BIT(WORD'10.9)=1; THE T = LOR; THE T = LOR; BY SUB'CAT EQ 1" COMD5: THEN "GET WORD 2" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" COMD5: THEN SUB'CAT BE 1" BY SUB'CAT EQ 1" BY S	
### ### ##############################	
END "SIH (WORD" 16,9)=1; "THEG" "THEG" BIT (WORD" 16,15)= ELSE BY GIN "SUB"CAT RO 1" BY SUB"CAT NE 1" "THEN" "SUB"CAT NE 1" BY SUB"CAT NE 1" BY SUB"	1
ELSE ELSE ELSE ELSE ELSE BEGIN THE FILE END SHR=WORD[2]; PERFORM BIRK 9; END END END THE FILE THE FILE ELSE ELSE ELSE END SHR=WORD[2]; PERFORM BIRK 9;	"SET BIT 9"
ELDSE REGIN THE SUNT THE SUNT THE ELDSE ELDSE END SHH=WORD[2]; PERFORM BLK'9; END END CAI E0	
ELSE ELSE BEGIN BEGIN 1F SUB* THE ELSE ELSE ELSE END SHM=WORD[2]; PERFORM BLK'8; END END "CAI EQ	"SET BIT 15"
ELSE BEGIN CONDS: 1F SUB' INF END SHM=WORD[2]; PERFORM BIK'8; END END SHM=WORD[2];	
ELISE END SHN=WORD[2]; PERFORM BLK'8; END END CAT EQ	
ELSF END SAM=WORD[2]; PERFORM BLK'8; END "CAT EQ	
ELISE SAM=WORD[2]; PERFORM BIK'8; END END	
ELSK. SHH=WORD[2]; PERFORM BLK"8; END "CAI EO	"SET RIT 10"
END SHR=WORD[2]; PERFORM BLK'8; END "CAI EO	
SAM=WORD[2]; PERFORM BLK'8; END "CAT EO	"SET BIT 11"
PERFORM BLK'8; END "CAT EO	
END CAT FO	
2000	
SECIN "CAT NE P"	

94.		"THEN"
. 44.		"WHEN CATEGORY IS T. THE CODE"
91.		1.
94.		
91.		
. 16		5, WILL SET SLOT POINTER"
76.		BECTA FOR TH
94.	C0407:	UB.
95.		#INEN" "SUB CAT FO 3"
96		O C
90.	C0 ND8:	
97.		"P TIR TAS" "IM(0,01,0H0W)TIR
94.		
.66		WORD 16,12)=1;
100.		Skrawoku 41; "GET KORD 4"
12		END THE CAT EQ 1"
14.3.		
1.3.		GIN "SUB"
104.	:60%00	IF SUBTRICKI = S;
1.05.		BEGIN "SUBCAT EQ 5"
1.5.		-WORD
100.	CONDIN:	11 10 % 44.5
107.		THEN TO EG FT
10%.		1
1.18.		SKN=WORD[4]; "GET WORD 4"
159.		PERFORM GLK'8; END "ID EQ F"
111.		
	- N. W. W.	GIN "ID NE F"
113.	:110,000	17 F1804 150455 # 17
113.		BEGIN "FIRST" LEVI"
	COND12:	1F SECOND*LEVEL = 3;
114.		
114.		LEVEL EQ
115.		SRNIEGROFOLE "GET WORD 4"
116.		PERFORM BIX '85 FIND "SECOND", FUEL FO. 3"
11.4.		ST LEVEL EQ 1"
12.1		DERFORM HIK 19:
121.		GNS OF STREET
.221		END "SUB-CAT EG S"
123.		

CORDI3: BEGIN "SUR'CAT NE S" IF SUB'CAT = 3;	10=40RD[9]; "GET WORD 9"	CLOS. "GET WORD 10"	"IHE"	BIT(MORD'16/11)=1; "SET BIT 11"	ELSE BIT(#0R0'16,13)=1; "SET BIT 13"	4	END "SUB"CAT NE 5"	END	END "CAT EG I"	3873	CONDIS: IF CAT = "I"		"WHEN CATEGORY IS I, THE CODE" "" ANY CHECK VARIABLES SHAFT, NOW ADDR'MSG, HOSTILE, SHA"	ADDRESSE, MISSION, SLOT'POINTER "	2. MAY STORE, WEATHER, WEATHER WASHING, NON MODUR MSG.SAM BABADDR MSG.	;	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		LAB	FRITEW(AEATHER); "STORE WEATHER"	BEGIN "LANEL NE 1 OR 2"	20	THEN THEN TO BE STATE OF THE PECT OF THE P	NO	WRITEW (NOW "ADDR" MSTORE NOW "ADDR" MSG"	ELISE		WRITEW(WEATHER"WARNING); "STOKE NEATHER"WARNING"	
124.	125.	127.	129.	124.	135.	132.	134.	135.	130.	7.	137.	134.	130	134.	139.	139.	139.	140.	140.	141.	142.	113.	144.	144.	115.	147.	149.	150.	141

00	-
PAGE	-
:57 MODULE: MBLT1,JTS	The state of the s
12:57	
9/14/76 12:57	
V. #62876	-
JOVIAL	

IF SUB-CAT = 3; "THER" PERFORM BLK'13;	ELSE BEGIN "SUB"CAT NE 3" IF SUB"CAT = 7; "THEN"	THEOLN "SUB"CAT EU 7" IF LABEL = 1; "THEO"	REGIN "LABEL EQ 1" HOSTILE=HORD(8); IF HOSTILE = ON; "THEN" "THEN"	MORD[4]; "GET WORD 4" SRN = DEST'TG; "THEN" WRITEM(ADDR'MSG);	ELSE END "LABEL EG 1" PERFORM BLK'13; ELSE END "SUB'CAT EG 7" PERFORM BLK'1V:	ELSE	HEGIN "CAT NE I" IF (CAI = 'V') OH (CAI = 'A'); "THEN" "WHEN CATEGORY IS V. A. OR M. THE CODE"	PERFORM BUK 13; ELSE HECTE ACAT NE C. A. OD C.	HEN CATEGORY IS	BEGIN "CAT EQ C" 1. GABEL = 2) OR (LABEL = 3) OR (LABEL = 5) :
COND24:	COND21:	COND22:	C0x023;	COND24:			COND25:		50,4526;	C0N027;
154.	156.	154.	150.	104.	107.	73	174.	175.	179.	179.

JOVIAL V. 062876 9/14/76 12:57 MODULE: MBLT1.JIS PAGE 9

184.	COND28:
181.	THE STANDS TO ST
182.	
183.	PERFORM BLK 10;
184.	END
185.	E. E. S. C.
187.	FOND STATE OF 157
× × ×	
. 8	
184.	938
	COND29;
	MAHAN DATECON 18 C. THE COREM
1.9.1	* 1. MAY STORE SENSOR MESSAGE*
	TS OF TACK NICHA
194	COMBAN;
	TOPE TOPE TOPE TOPE TOPE TOPE TOPE TOPE
192.	END "CAT FO S"
193.	97
	Chic
.561 4	END "CAT NE I"
1.45.	T NE T"
197.	END
193.	RETURN; "EXIT FROM ROUTING"
143.	END "ACCEPT"HASH'STORE"
200.	

STATISTIC NAME	OCCURRENCES	PERCENTAGE
S S S S S S S S S S S S S S S S S S S	18155	
LIES	361	
SYMBOUS	103	21 50
	192	6.52
N1934	35	18.23
HIT	13	6,77
ELSE	26	13.54
ENO	35	18,23
IF	35	18,23
1154	32	16.67
96	۰ ي	3,13
PROC		2.8
HELIUM.	+ -	2.53
A A A A A A A A A A A A A A A A A A A	1 600	35.70
STATE STATE OF THE	5	25.2
Cur Pool	1	20.0
FJFCT	4	9.08
C045FA15	83	9.29
INTEGER	71	85.54
CHAHACTER	1.2	14.46
S164S	373	41,17
•	- ;	12.0
	1,	14,3
	4 4	3.75
	31	8.31
•	138	37.N
	5	1,34
	38	14.19
	æ •	10.19
	0,1	60.4
ABBHEVIATIOMS/DEFINE FORMAL PARAMETERS	32	3,58
2	2	6,75
Ü	30	93,75
MAMES	220	25.31
7000 000	-	0.44
DEFINE.	15	
LAMEL	30	13.27
PROC	31	13.12
Z	-	7.52
SI-PEE-IIEM	127	56,19
DECLARATIONS	37	
SIMPLE-ITE4	31	83,78
AON-MASED	31	100.0
100		2.19

STATISTIC NAME	OCCURRENCES	PERCENTAGE
PRUC	4	10.81
STATE 4ENTS	200	2 3 3
PROC CALL	27	13,50
IF	35	17,50
RETURN	4	2.6

JAIVCE	JOVIAL V. 052875 9/14/76 12:57 MODULE:MBLT1.JTS PAGE 12 STAT LOCA R CODE R CODE R LABEL MNEW OPERANDS	9/14/76 CODE R	12:57 MO	DULE: MBL7	MNEW MNEW	PAGE 12 OPERANDS
	0104 H	0028 L			AUDR MSG	98
	FIPS H	0027 L			FILTE	BIL
	H 901.	T peece			WORD-1	
	olD7 H	0226 L			SAM AAA	A
	с10в н	₩29 L			MEATHER	
	H 5010	2000			LEATHER AND	INK W
	. 103 н	0022 1			SENSOR MSG	S.W.
. REG1	REGION 1 +					
2.	7058 H			ACCEPT		
. RFG	. RFG10% 2 *					
11	H OSCO			ALK 10		
D.H.C.	10N 3 *					
34.	34. Sugar	6050	6.728 L		77	W.SLOT POLMT
	CAD2 H	Food	1112C L		U	U, END 'POINTE
300	D \$000	7.50	E 0000		20.	NE L. C.
37.	H GODA	12.18	7 07 00		7	WINE FULL
* *		1306	7 97 CF		10-	STORY OF STORY
	7 7 7 7	1111	1 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	2 1	11.11
	ANONE H	3000	GM2a L		- A	W. SLOT "POINT
	1 110	11:17	A. 24 L.		ST	100.00
43.	.1612 H	7082	4444	H.12	5	\\\\.
PF G	. RFGION 4 *					
45.	и +Тос			BLK 8		
. KEG	. REGION 5 .					
46.	H 9160	8090	3014 L		r	SOREN
	H BION	5003	3223 1.		U	6,0881
	USIA A	7050	V024 H		30	NE, H , 24
41.	H DIGE	83F0	ы104 н		LIM	15, (ADDK MSG)
	OOLE H	7223	2000		JS	2,001FPUT
	H 1774	2000	Denne P		Lo.	114,8000 10
200	H 777.1	0401	M YZ Z H	1	2	H - ZE
.10	H +700	5 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	10.00	H . 24	7 0	1,100,000
	1 0700	70.10	, ,		0	A NOTE OF THE PROPERTY OF THE
24.	H 6704	1000	042.5 L		، ر	2020
23	FOZA H	5000	BOZE H		200	NE, F. L. E. C. L. L. C.
	2000	54.4	STDS H	H. 2F	L.T.M	15. (511.746 917)
23.	3277	135.0		11. A.E.	200	TOTAL TOTAL STATE
56.	P. 032 H	7220	H COOK		d S	2, Bl. 1.3
58.	F \$ \$ 1.7	BF20	LOUSE L	H . 34	1, 14	2,6,38
	14036 11	7.282	0000		2	10,2
	н 4100	95.20	9438 L		SIM	2,1,,38

	S
PAGE 13	OPERAND
1.JTS	MNEM
MODULE: MBLT	R LABEL
12:57	CODE
0	x
9/14/7	CODE
V.462876	LUCA R
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S. SECTION CO. CAN'S

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10.35	30	- 1 - 013					
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10.00		2 4 4 4 5	7.55	07.24 L		.	1, SELF
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10 10 10 10 10 10 10 10		7101	9356	M 1010		E I M	IS, (ADDR.MSG)
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Very St Very		H ## 600	9010	WOID L		ST	1,MISSION
Very St. H	.00	E Dead	F010	0025 E		U	1,022
(1) 1	,	T 3500	7050	DF54 H		30	NE, H. 554
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Veb 2 A FE 20 Veb 2 L A A A A A A A A A	,	6.52 H	7220	* 000g		35	2,WH11EW
wash H AdF2 wash J wash H AdF2 wash L L wash H AdF2 wash L L L wash H AdF2 dwash L DS L	.01	v. 654 .4	8520	MM3C L	H.54	LM	2,6,30
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		11 1944	2270	oppo L	H.68	SB	6. WORD 16
		TADA II	8350		CONDS	-1	Ø.CAT
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0.094 0.09	2.	H 2600	TOFU			5	H.100
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1990		H APOS	8310	3001	CONDI	LIM	1,11
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September F300 September CIM September A352 September		H FULL	80003		CONDIZ	7	0, SECOND LEV
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AND A B3F	-	H 8050	7,35,3		-	30	A. C.
1224 3333 0335 0355			83FA			C.13	15. (504.784)
		H 2GoA	122.	Down *		35	Z.001F50T
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STAT	LOCN R	CODE R	CODE R CODE R	LABEL	MNEM	OPERANDS
	H Jave	5340	6000		CIM	6,13
	MOPE H	7750	MOF6 H		30	NE, H. F6
125.	н изор	8000	7 6000		7	W,WORD+8
	H 7400	2006	96100		2	0,10
127.	# # # # # # # # # # # # # # # # # # #	5 5 5 6	1 A 2 2 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H. F.	> -1	6+0807
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128.	SAFA H		2	H.FA		
	H KYA.	8000	Wils L	COND14	L	ø,10
	H Disco	F300	9649		CIM	9,70
	CAPE H	7650	0104 H		30	NE, H., 104
129.	0100 H	5080	1 0000 F		SB	11, WORD'16
130.	1152 H	1050	0106 H		2	H. 106
131.	0174 H	5000	Secon L	H.104	SB	13, word 16
132.	F105 H	96.36	0004 L	H.106	J	0, WORD+3
	E108 H	9830	0014 1.		ST	O, SRN
133.	и1>А н	7220	0014 H		78	2, 51K, 8
34.	134. GINC H			H.10C		
SEC.	101 101					
35.	135. AICC H			H.10C		
137	1100 11+	7050	H SOLO		-	
	010E H			H-10E	,	
. AEG	JUN 12+					
34.	13м. с1ов и	8000	bull L	CONDIS	1	U,CAT
	v116 H	F300	4920		CIM	. 1. '0
	∴112 н	705	017C H		30	NE, H,17C
139.	0114 H	8314	1000	CONDIB	L13	1,71
	110 H	F. 10	0012 L		o i	1,SUB CAT
	- 1.5	1550	F144 H		30	NF : !! - 144
14:	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8010	JULY C	CONDIA	٠.	LLABEL
	н 5115	1310	1000		5	
	011E H	2212	H 6710		3 5	EUr H. 124
	11 22 11	7 15.	2000			11.15 11.15
141.	1124 H	83F.	0108 H	H.124	LI	15. (*EATHER)
	1126 H	1221	* 6000		JS	2 o x R I TEW
142.	N128 H	7250	9142 H		5	H. 142
143.	112A H			н.12А		
	112A H	6316	8000	CONDIB	CIM	11/3
	M12C H	7050	Ø13€ H		20	NE, H.13E
144.	и12€ н	8016	4018 L	COND19	T	1, NON ADDR'M
	F133 H	F 010	WIF L		C	1, MANT
	и132 н	7050	₩ 13A H		30	NE, H.13A
145.	н 4€10	8350	8109 H		LIM	15, (NOW ADDR'M)
	₩136 Н	7240	* ~~~		JS	2, ARITEM
146.	H 88 10	1060	W13C H		2	H.13C
147.	013A H	7220	H MONE	H.13A	35	2,81,K*10
.64	F13C H	7360	л142 н	H.13C	J.	H.192
150.	и13€ н	83F0	UIDA H	H.13E	LIM	15, (WEATHER'WA)
153	6143 н	7226	* 0000		JS.	2, WHITEM
	0 7.1.4		I WIT	741.0	-	0.174

5.3				144		
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155.	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	3271	0038 H		JS	2,8LK*13 H-17a
157.				H.14E		
		8000	9012 L	COND21	r	U,SUB'CAT
	1156 H	F 330			CIM	0.17
		7050	о178 н		35	NE, H.178
158.	H 5517	8318	1000	COND22	LIM	1,.1
	ı	FALE	OwlA L		U	1. LABEL
	H 8514	1,150	0174 H		30	NE, H. 174
159.	- 1	8627	D RODG		ני	2,4080+1
	F15C H	65.20	9514 L		ST	2, HOSTILE
	- 1	F320		COND23	CIM	2,11
	6165 Н	150	4106 H		5	NE, H. 16b
61.	1	8350	0107 H		LIM	15, (SAM AAA)
		1220			35	2, nrllew
62.	- 1	8012		Н.166	1	1, AORD+3
		9010	7 7 7 7		ST	1, SRe
03.	441	2010	VV21 L	C04024	2	1, DEST TGT
1,44	3 5 4 1 0		7710		3 2	7/1/2
	1	1777	i		10	15-14 FEB
. 99	0172 4	7050		H-172	3 -	1,176
167.		7220	V1138 H	H-174	35	2, BLX 13
.66	1176 H	7050	WITA H	H.176		H-17A
.01	н 871.	7220	H COND	H-178	38	2,81,K 10
174.	- 1	7080	WIDA H	H.17A	3	н. 100
15.				H.17C		
	7 DZ 12	8712	0411 L	CONDSS	I,	1,CAT
		F 3 LO			CIM	1, 0
1	- 1	0701	H WELD		30	ESCH.18A
	H 7810	7.510	9170		E I	1 company
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16.		1113	H ES OF	THE P	30	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
17.	CINC H	7550	M SOLO		3 -	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
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		8000	0011 L	CONDZE	T	0.047
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13.	11.001	H313	20,02	COND27	I, I M	11,72
	- 3	Folo			U	1, SUB CAT
	H 8614	1,95.3			30	NE.H. 192
	- 1	8424	WOLA L		7	2, CABEL
		F 320			CIM	27.72
	- 1	1:20	PIAC H		20	E0, H. 1AC
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			F320	1		CIM	22/4 F0-H-1AC
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### ## ### ###########################			7220		H.188	JS	2,65,710
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100 100					H.100		
STATE STAT			8000		COND29	.7	G CAT
			6340			E I O	0,'S
### ##################################			7050			35	NE, H. 100
### ##################################	5		21.28		CONDAM		1, SENSOR 'MSG
### 1950 1950 H JC #### 1950 H JC ####################################			1510			C	1, AAN L
### ##################################			7050			30	NE, H. 100
# # # # # # # # # # # # # # # # # # #	10		838.0	1		LIM	15, (SENSOR MSG)
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JOVIAL V. WAZH76 9/14/76 12:57 MODULE: MBLTI.JIS PAGE 18
TAVE. CLAS SCOPE LOC TY FB SIZ PERM/DSIZ DEF - SET(*)/USED - -

CATALON MANAGEMENT OF THE PARTY OF THE PARTY

3000	1183	ACCEPT HAS	JEZEL.		0	1	RESERV	30:	47	63	67	164	-	-			
		ACCEP L"HAS	0019L			9	RESERV	15:	61*	62							
	1	*GLUSAL*	2000	4	9	32 4		2:					-		-	-	
	3044	ACCEPT HAS	новая		-	7		37:	99	99	120	120	141	147	170	170	18
	PEUC	ACCEPT HAS	H88.30			4			1 4 2	4.5.5	167	1. 7 1	36.	121	***	20.	
			W.514H			5		45:	0.5	06	101	101	200	100	116	110	1.23
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	115.4	ACCEPT HAS	oct11L	U	0	2	ESERV	7:	77	6.6	138	175	175	175	178	189	
	LAME	ACCEPT HAS	0062H					74:									
	7447	ACCEPT HAS	RUDUS					106:									
	LAHI.	ACCEPT "HAS	нарки					112:									
C01012 1		ACCEPT PAS	45004H					113:						STATE OF THE OWNER, OR ASSESSED.	-	-	-
	LAHI.	ACCEPT HAS	UTEAH					124:									
	LABL	ACCEPT HAS	ONFAH					128:		-	-	-					1
204015	LARL	ACCEPT "HAS	ALOEH					138:									
	LABL	ACCEPT HAS	0114и					139:			-		-	-			1
	LANL	ACCEPT HAS	W11AH					140;									
C01014 1	Lant	ACCEPT "HAS	J124H					143;	-						-	-	-
610		ACCEPT HAS	W12EH					144;									
20,03	LABL	ACCEPT HAS	HYDOG					17:	-						-	-	
	LAHI.	ACCEPT "HAS	9144H					154:									
	1,4%L	ACCEPT NAS	614EG					157:			-	-					1
2.5		ACCEPT HAS	5154H					158:									
		ACCEPI "HAS	MISEH					160:		-		-				-	-
		ACCEPT "HAS	оле ви					163;									
		ACCEPT HAS	F17CH					175;				-	-	-	-	-	
		ACCEPT HAS	W1 dFrl					178:									
		ACCEP F HAS	51944					179:									
876500	LA 31.	ACCEDE AND	SIACH	-	-		-	180:									
		ACCEPT HAS	alcen.					189:									-
-	1	DEL LA DE	H.17 130					18:	-	-	-	-					
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	2014		W6.00	2		32 0		2:									
		1	27:07 P	1		1	RESERV	4:	-								
	- 1	ACCEPT HAS	MAZME		0 1	6 R	RESERV	22:	46								
			31200				HESERV	23:	163			-	-				-
- 1		- 1	DOSCE.	0	-	1	RESERV	34:	38								
			3027E			L	ESERV	29:	55	-		-		-	-		1
STILEVE	- 1	ACCEPT HAS	,1416L	1			RESERV	12:	112								
		ALCEPT MAS	11 11		_		RESERV	: 6	22								-
STILL			0, 161	0	0		RESERV	17:	159*	160							
11106		r.	W.156		-	9	HESERV	11:	*56	96	105#	106	125*	127*	128		
-	3079	• GLORAL.			-	_ 1	EXTRNL	5:									

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	SET(*)/USED -
19	DEF
PAGE 19	RM/DS1Z 0
1.JTS	PE
SLT1.	212
MODULE: ME	TY FB
12:57	POC
6 9/14/76 12:57	COPE
6287	CLAS S
JOVIAL V.	NANE

AND THE TON TH	1	LOR	ITEN	ACCEPT HAS	SWIEL	-	16	RESERV	20:	8.9								
The ACCEPTAGE WILLE 0 0 16 RESERV 181 184 184 18	The ACCEPT And WILLIAM 10 10 10 10 10 10 10 1	MISSION.	ITEM	ACCEPT HAS	MOIOE		16	RESERV	19:	65 *	99							
		.S.		ACCEPT HAS	POICE		16	RESERV	18:	51*	52							
1	1	HOY ADDR .		ACCEPT HAS	0018L		16	KESERV	14:	144	145	180	181	-				
		NO	DF 1%	*GLOFAL*					5:	166								
The Accept was marked U	The Accept Has walch U	OUTPUL	DE 36		# 00000			9	2:	47	114							
SA 1124 ACCEPT 1AS DIP 2 1	See 112 ACCEPT 138 OP 15 RESERV 25 50 941 181 189 115 120 133 147 13	NMO	ITE	ACCEP L'HAS	0025L		10	RESERV	27:	99								
PER DETRI	PER	OAN FSV	ITEN	ACCEPT HAS	C023L		16	RESERV	25:	5.2								
Second S	Net New Colorado New	DEFFORM	05 IN	*GLOBAL*					2:	99	9.6	101	169	116	120	133	147	155
New Period Geograph New	New Page Calcard C									167	170	176	183	186				
The Accept HAS wide U w 16 RESERV 131 161	A		PFOC	*GI.084L*	*F036			9	2:	72								
New York Text New York Ne	Net	A	ITEM	ACCEPT HAS	JE201		16	RESERV	28:	114	161							
		SECONDILEN	ITEN	ACCEPT HAS	JO176		16	RESERV	13:	113								
PROTECT TEST ACCEPT HAS WAZEL U w 16 RESERV 24: 190 191	PROTECT TEN ACCEPT FAS AND F. P. P. P. P. P. P. P.		116%	ACCEPT HAS	0W246		16	RESERV	26:	62								
PROTECTION CERTIFIES ANY CERTI	PROTTE THE ACCEPT HAS ANYOL	SF. 304 "NSC	1 1 Tr. "	ACCEPT "HAS	VW 225		14	KESERV	24:	190	191							
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THEM ACCEPTIONS AND 16 RESERV 18; 18 18 18 18 18 18 1	PHOC # GEOPHINE NOTIFIED PAGE P	SLOT POLL	1164	ACCEPT HAS	JAZHL		16	RESERV	33:	38	39*	41	41+					
	THEM ACCEPTIONS WINDLE 16 RESERV 18:	SUHI	PROC		0000		32	2	2:									
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PRINTE ITEM ACCEPTINAS ANZPL U W 16" RESERV 35: 39 FER ITEM ACCEPTINAS ANZPL U W 16" RESERV 21: 144 180 190 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 21: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 32: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 32: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 32: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 32: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 32: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 3: 150 FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 6: 73* 75* 75* 77* 81* 85* 87* FER ITEM ACCEPTINAS WANZPL U W 16 RESERV 6: 73* 74 FER ITEM ACCEPTINAS WANZPL	PROTOTE TERM ACCEPTINAS ANAPL U W 16" RESERV 35: 39 FER ITEM ACCEPTINAS ANAPL U W 16" RESERV 31: 144 180 190 FER ITEM ACCEPTINAS ANAPL U W 16 RESERV 31: 144 180 190 FER ITEM ACCEPTINAS WAPL U W 16 RESERV 32: 150 61 65 72 73 89 95 100 1 FER ITEM ACCEPTINAS WAPL U W 16 RESERV 32: 150 125 127 132 159 100 1 FER ITEM ACCEPTINAS WAPL U W 16 RESERV 32: 150 101 104 1 FER ITEM ACCEPTINAS WAPL U W 16 RESERV 32: 150 107 104 104 104 104 104 104 104 104 104 104	SUH CAT	1150	ACCEPT HAS	95126		16	RESERV	æ	78	84	94	184	124	139	154	151	179
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TEM ACCEPT AS WATEL U 0 16 RESERV 21: 144 180 190	THEM ACCEPT HAS WATEL U & 16 RESERV 21: 144 160 190	TAIDE	I LEW	ACCEPI "HAS	W.2DL		16'	RESERV	35:	39								
11FM ACCEPTIAS WW29L	ITEM ACCEPTTHAS UA29L U U 16 RESERV 31: 141		1164	ACCEPT HAS	CALFL	1	16	RESERV	213	144	180	190						-
HIEM ACCEPT AAS DAZAL U U U 16 RESERV 32: 150 61 65 72 73 89 95 100 1	THEM ACCEPT AS DIVERT		ITEN	ACCEPT HAS	0.29L		1.6	RESERV	31:	141								
FILTH DATA	FILM DATA	MCATHER &A	1187	ACCEPT HAS	OF 2AL	1	16	RESERV	32:	150				-				-
ITEM ACCEPT*HAS SWAML	ITEM ACCEPT'HAS GRADL U @ 16 RESERV 3: 108 115 125 127 132 159 162 178		NIIJ	DATA	Abbit		2	RESERV	3.	51	61	6.5	72	73	6.8	95	100	105
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DETSEL Version 6(347) Funning on LPTM11
START User NURLANDEF (3232.1376) Job JTIDS Seq. 521 Date 14-Sep-7b 10:03:39 Monitor AFAL 602.15 SYSTEM *START*
RETURN CONTROL 14-Sep-7b 10:04:04
RETURN CONTROLS (1322.1376) Created: 14-Sep-7b 09:35:00 Printed: 14-Sep-76 10:04:02
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JOVIAL	V. 062876	9/14/76 9:3	5 MODULI	E:JTIDS	.JTS	PAGE 1	
IT105.	11108=11108	.JTS, JT1DS/H	BC/MAC/NO	DIN			
	71111 0110						
1.	С	OMPOOL JTIDS	;				
2.		BEGIN	DEGEORGI				
3.		DEFINE	DERFORE				
4.		5KOC		input);			
5.			BEGIN				
6.			ITEM	INPUT	U;;		
7.			END				
8.		PROC		(STORE)	1		
9.			BEGIN ITEM	CHORE			
10.			END	STORE	U;		
11.		PROC	OUTPUT	(SOME):			
12.			BEGIN				
12.			ITEM	SOME	U;		
13.			END				
14.		PROC	ATAN(V)	1r)	F;		
15.			BEGIN LTEM	VAL	F;		
16.			END	VAL			
17.		PROC	SINCVAL	.1)	F;		
18.			BEGIN				
18.			ITEM	VAL1	F;		
19.		DD0.5	END				
21.		PROC	BEGIN	12)	F;		
21.			ITEM	VALZ	F;		
22.			END				
23.		PROC	SORT (VA	(L3)	F;		
24.			BEGIN		_		
24.			ITEM	VAL3	F;		
26.		PROC	END TAN(VAL	.4)	F;		
27.		21100	BEGIN				
27.			ITEM	VAL4	F;		
28.			END				
28.		END					
OVIAL	V. 462876	9/14/76 9:3	s Monuta	E:JTIDS	JTS	PAGE 2	
मध्म -	LOCH R	CODE R CO		LABEL	MILEM	OPERANDS	
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11).					END		
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